

FM/AM RECEIVER

# KR-A4060/A5060

## SERVICE MANUAL

# KENWOOD

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B51-4945-00 (K)3891

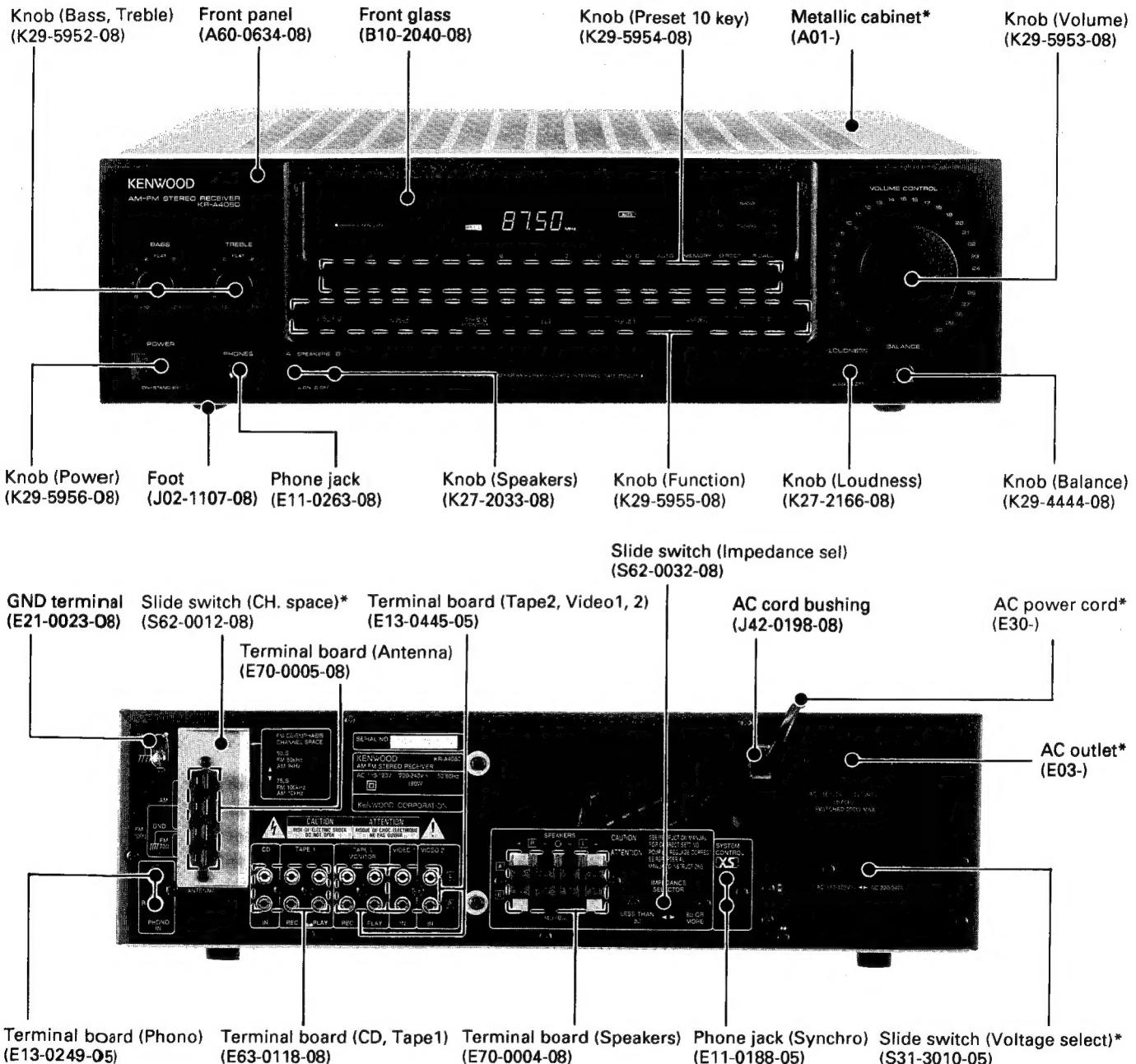


Photo is KR-A4060 (M type).

\*Refer to parts list on page 35.

# KR-A4060/A5060

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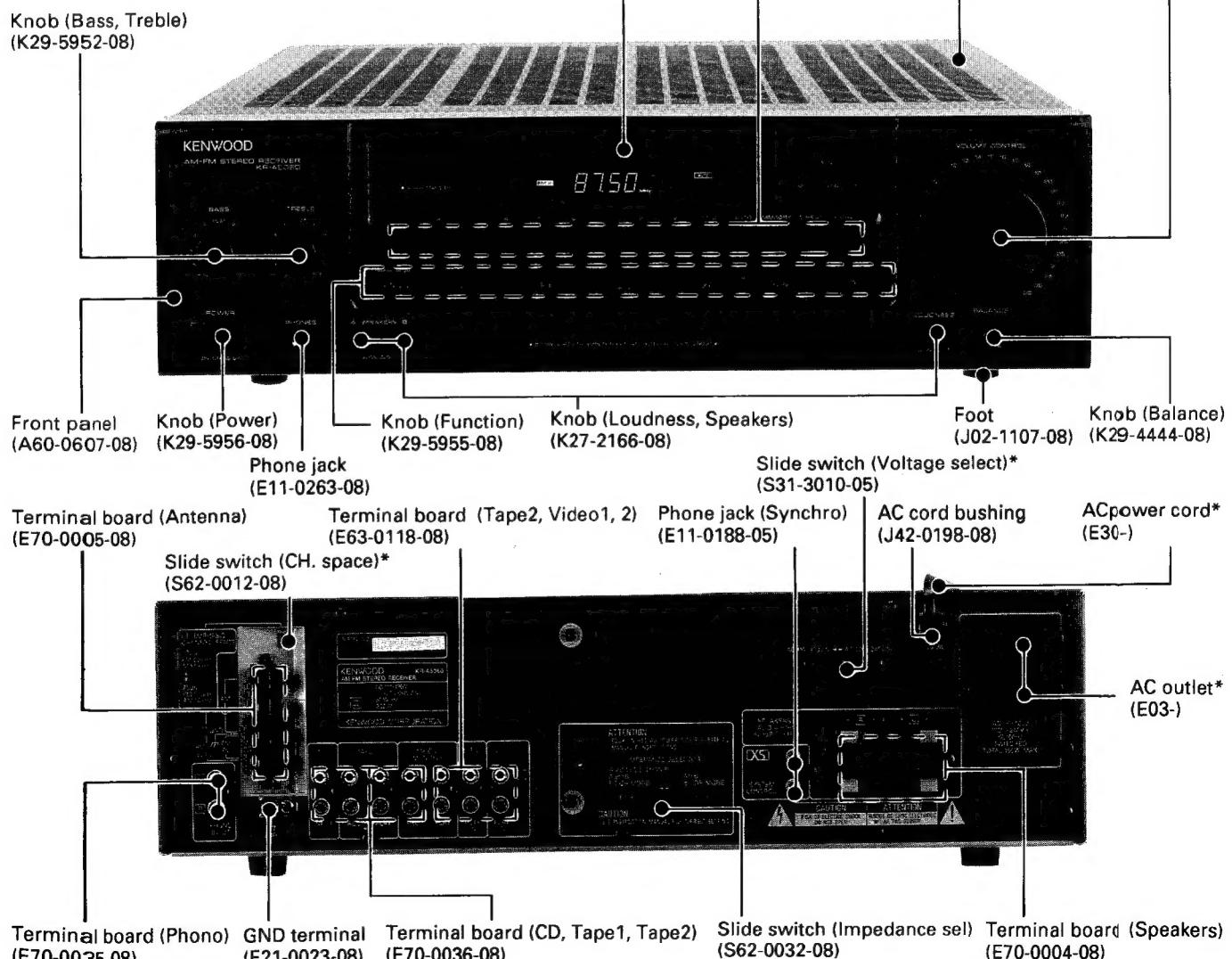
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### EXTERNAL VIEW : Photo is KR-A5060 (M type).

\*Refer to parts list on page 59.



FM/AM RECEIVER

KR-A5060

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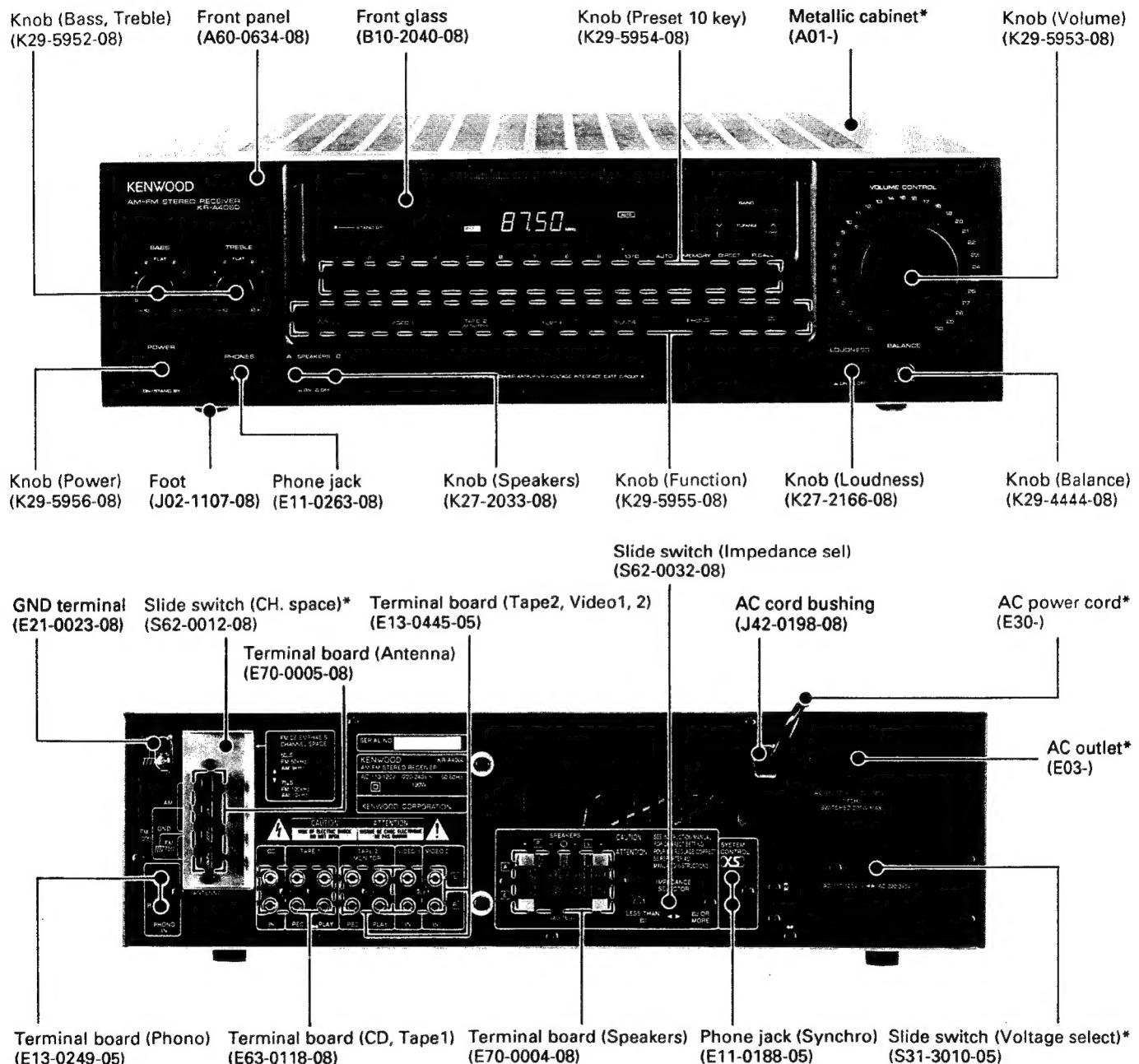
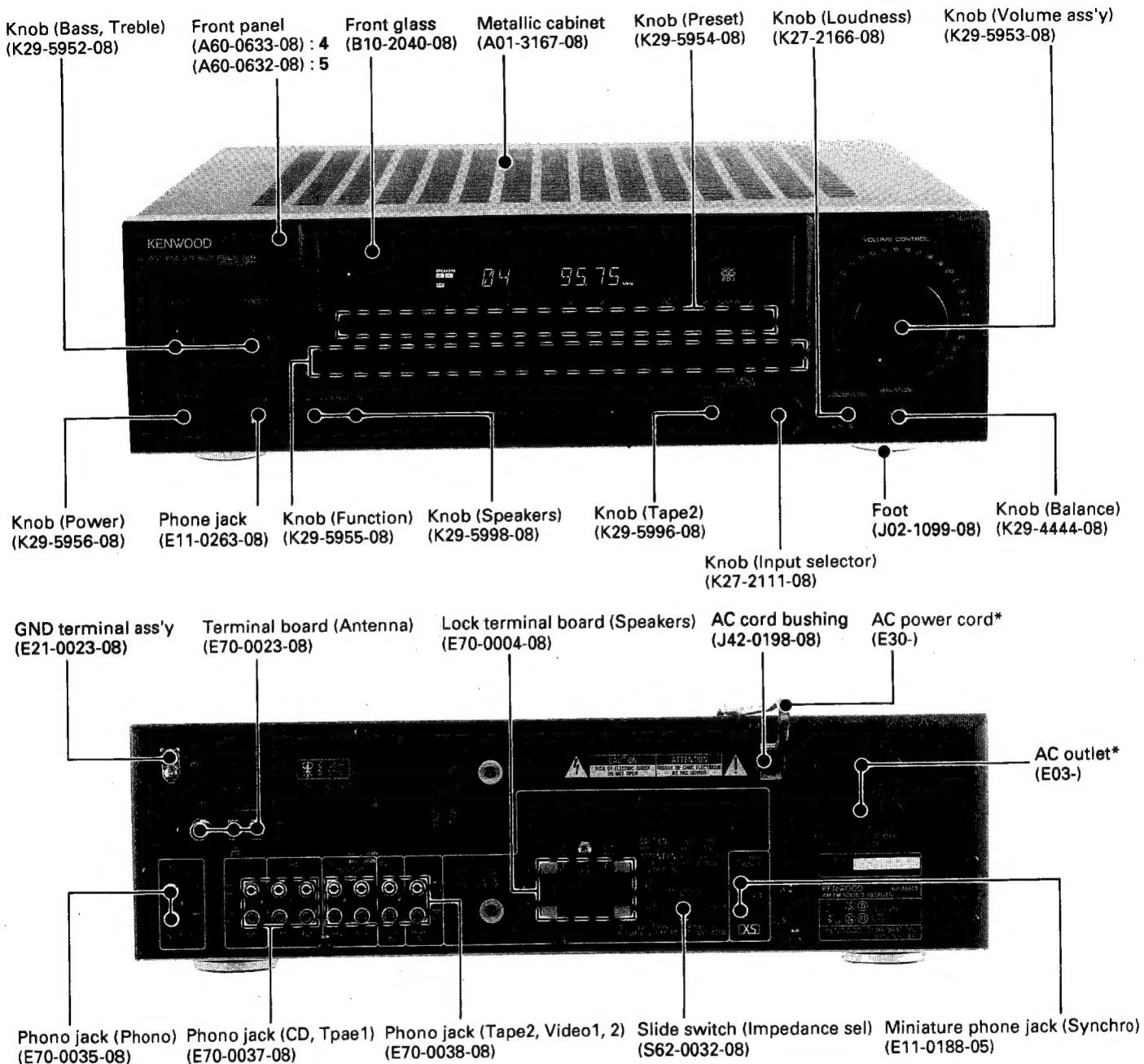


Photo is KR-A4060 (M type).

\*Refer to parts list on page 35.

# KR-A4060/A5060

## EXTERNAL VIEW : KR-A5060



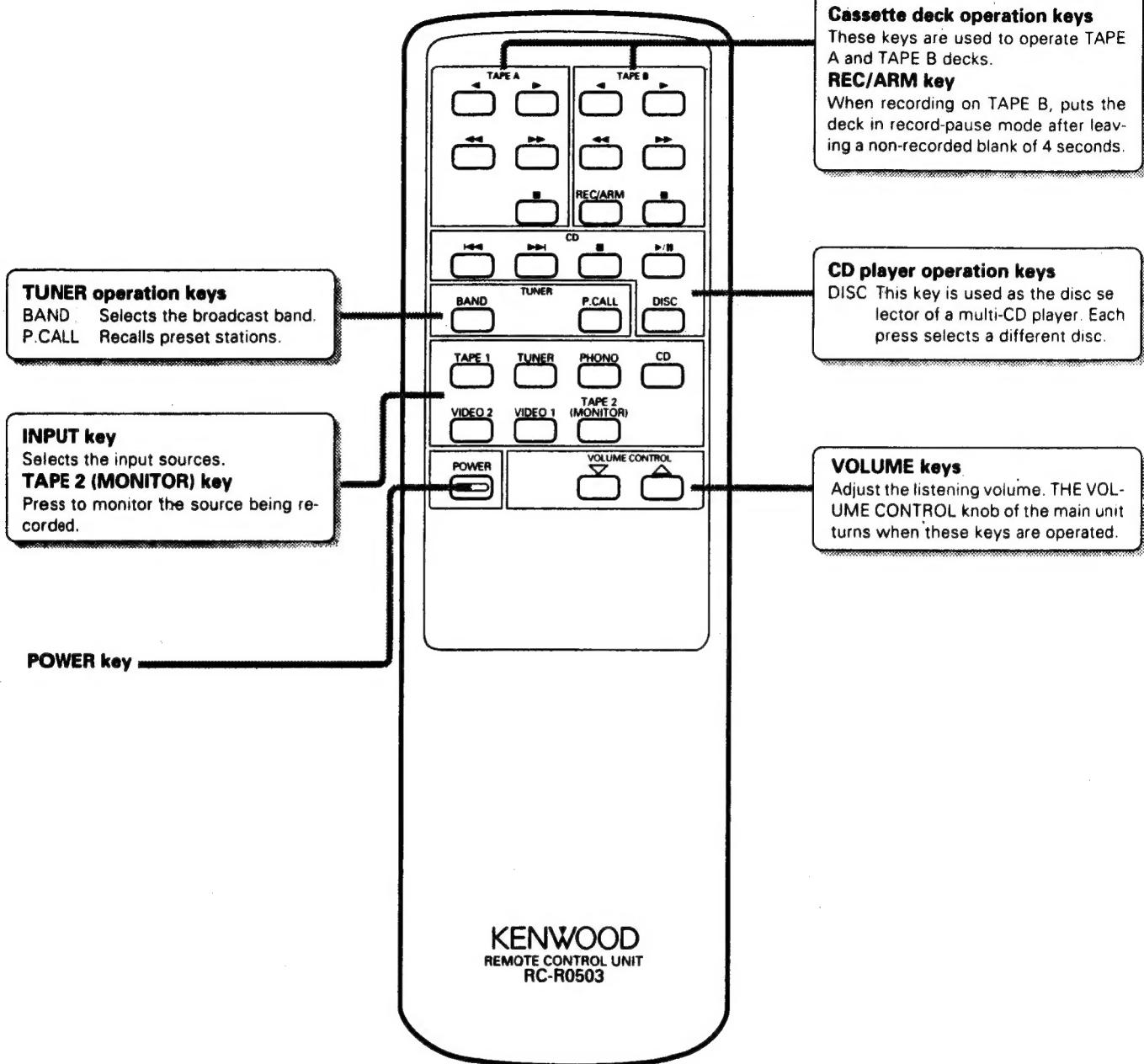
4 : KR-A4060  
5 : KR-A5060

### Photo

\*Refer to parts list on page 83.

# KR-A4060/A5060

## REMOTE CONTROL OPERATION

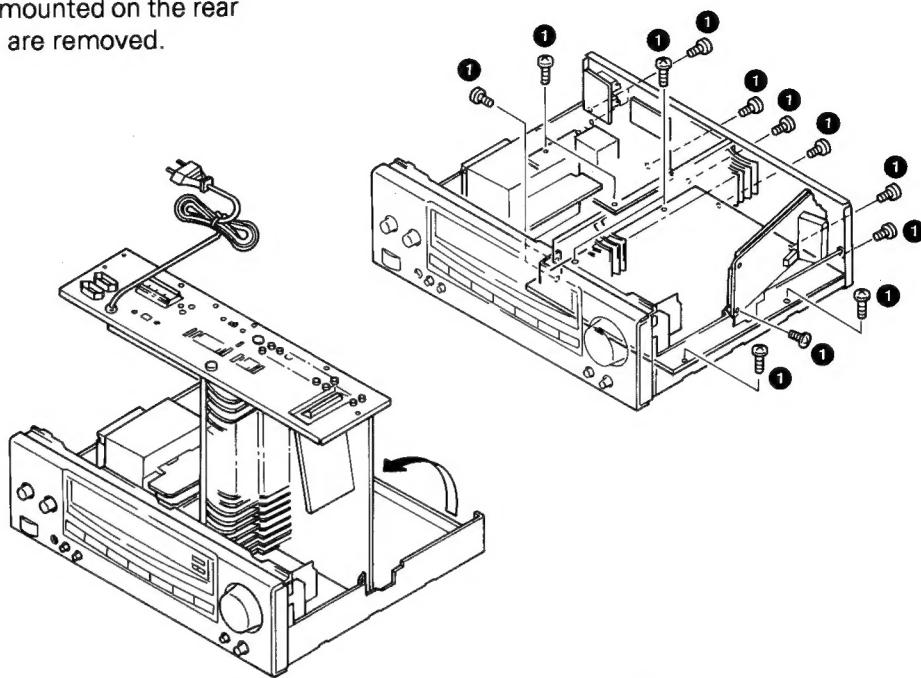


Model: RC-R0503  
Infrared ray system

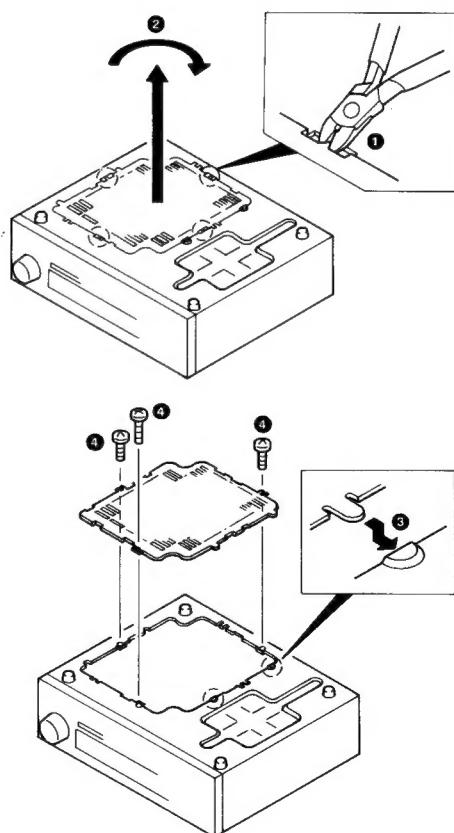
# KR-A4060/A5060

## DISASSEMBLY FOR REPAIR

1. Repair can be carried out with the Main (AUDIO) PCB and the power supply PCB mounted on the rear panel when the 17 screws (①) are removed.



2. Cut the 4 places with a pair of nippers (①), and remove the bottom panel from chassis.
3. Move the unit holder from the current position to the open mounting position.
4. Rotate the lid, which was cut off, by 180° degrees (②).
5. Insert the lids in the 2 places of the chassis (③), and mount them with the 3 screws (④).



# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 1. Setting

#### 1-1. Initial setting

##### • Function initial setting

Last channel memory .....	FM : 87.5MHz
K type .....	AM : 530kHz
E type .....	AM : 531kHz
Tuning mode .....	Auto
Band .....	FM1
Input selector .....	Tuner
VIDEO monitor .....	VIDEO 1
TAPE 2 monitor .....	OFF
Muting .....	OFF
Power .....	OFF

**Frequency memorized for each PRESET channel when the memory is cleared (Test frequency)**

Band	FM1 (MHz)		FM2 (MHz)		AM (kHz)	
	type	K	E	K	E	K
1ch	87.5	87.5	87.5	87.5	530	531
2ch	89.1	89.1	87.5	87.5	630	630
3ch	90.0	90.0	87.5	87.5	990	990
4ch	92.0	92.0	87.5	87.5	1440	1440
5ch	94.0	94.0	87.5	87.5	1610	1602
6ch	98.0	98.0	87.5	87.5	1700*	531
7ch	100.1	100.1	87.5	87.5	530	531
8ch	102.0	102.0	87.5	87.5	530	531
9ch	106.0	106.0	87.5	87.5	530	531
10ch	108.0	108.0	87.5	87.5	530	531

\*1700kHz is set for WIDE only.

##### • μ-com output port initial setting

[Any figure in ( ) is a pin number.]

POWER (24) .....	"L"
MUTE 1 (25) .....	"H"
MUTE 2 (26) .....	"H"
VRDOWN (1) .....	"L"
VRUP (63) .....	"L"

**The initial setting is performed in a following event**

1. When backup memory data is destroyed when reset is applied to the μ-com.
2. When the power cord is plugged in to the AC wall outlet while pressing the TUNER key.

#### 1-2. Test mode setting

##### • Method of entering the test mode

While pressing the CD key, plug the power cord to the AC wall outlet. When the test mode is entered, the FL tube display all lights up.

##### • Method of canceling the test mode

1. Unplug the power cord from the AC wall outlet once.
2. Send the reset signal to the RESET pin or some other means to reset the μ-com.

##### • Contents of test mode

1. When the test mode is entered, the FL tube display all lights up. This all lighting continues unless a effective remote control serial code or the test mode is canceled.
2. The test frequency is stored in memory for each preset channel. (For each frequency to be stored in memory, refer to its associated listing.)
3. The test mode is different from the normal mode in the following operations :

When the tuner UP or DOWN key is pressed when a mode other than TUNER has been selected, the potentiometer is increased or decreased.

Once one of the these keys has been pressed, the operation continues even if the key is released.

It stops automatically if the AUTO or POWER key is pressed or if the AUTO or POWER key is not pressed for 16 seconds.

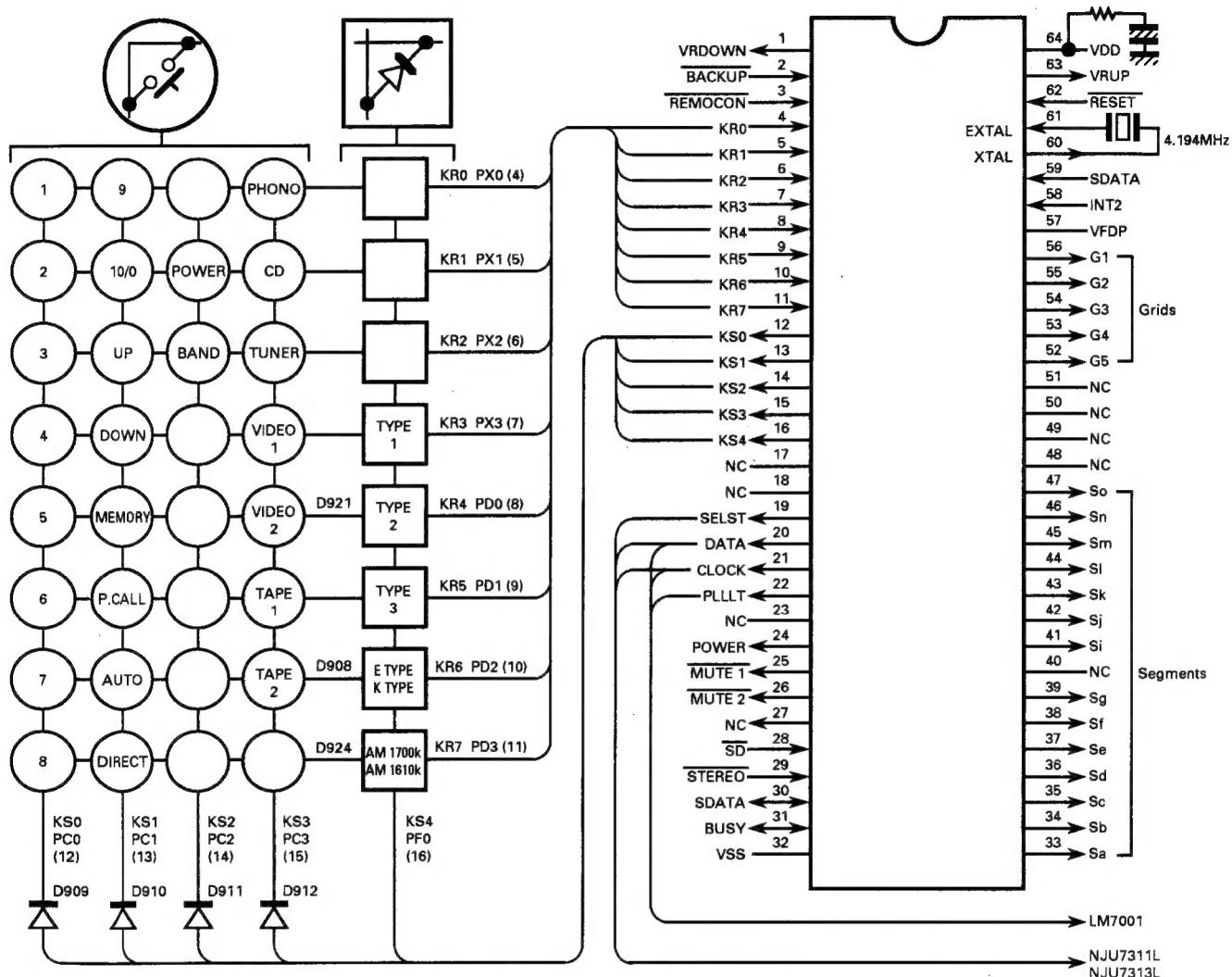
EXCEPT E,T

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 2. Receiver µ-com : CXP5016-531S (Front PCB : IC901)

#### 2-1. Key matrix connection diagram



#### 2-2. Setting of destinations, models and specifications depending upon diode key matrix

The setting of destinations, models and specifications is made according to the initial set diode key matrix. In the following, "1" means with diodes and "0" without diodes.

##### • Model set switch (Type 2 : D921)

Model set switch			MODEL	Function		
Type 1	Type 2	Type 3		TUNER band	VOL.CONT with motor	REMOCON
-	1	0	KR-A4060/A5060	→FM1→FM2→AM→	Provided	Provided

EXCEPT ET

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

- Destination set switch : E/K type (D908 to Q903)

Destination set switch	Desti- nation	BAND	Reception frequency band	Channel space	Reference frequency
0	K	FM	87.5~108.0MHz	100kHz	50kHz
		AM	530~1610kHz	10kHz	10kHz
		AM	530~1700kHz	10kHz	10kHz
1	E	FM	87.5~108.0MHz	50kHz	50kHz
		AM	531~1602kHz	9kHz	9kHz

- Specification set switch :  
**AM 1700k/AM 1610k (D924)**  
With destination set switch at "0" :  
**Effective only for K type**

Specification set switch	AM reception frequency band
0	530~1610kHz
1	530~1700kHz

### 2-3. Pin function

No.	Name	I/O	Function
1	VRDOWN	O	Volume down operation control. ("H" : Down, "L" : Normal state)
2	BACKUP	I	Backup (AC outlet OFF) detection. ("H" : Normal state, "L" : AC outlet off)
3	REMOCON	I	Remocon signal input. (Active "L")
4~7	KR0~KR3	I	Key return signal input. ("H" : There is input, "L" : There is not input)
8~11	KR4~KR7		
12~16	KS0~KS4	O	Key scan signal output. Normally high is output. Key scan is performed when key is ON.
17, 18	NC	O	Not used.
19	SELST	O	Data latch signal output to NJU7311L/NJU7313L. Data is latched on the rising edge.
20	DATA	O	LM7001 (PLL IC), NJU7311L/NJU7313L (selector IC) control serial data output. Data is latched on the rising edge of the clock.
21	CLOCK		LM7001, NJU7311L/NJU7313L control serial data transfer shift clock output. Data is latched on the rising edge of the clock.
22	PLLLT	O	CE signal output to LM7001. When the signal is high, LM7001 is enable.
23	NC	-	Not used.
24	POWER	O	Power supply circuit relay ON/OFF control. ("H" : ON, "L" : OFF)
25	MUTET1	O	TAPE 2 REC OUT mute control. ("H" : MUTE OFF, "L" : MUTE ON)
26	MUTE2	O	LINE OUT mute control. ("H" : MUTE OFF, "L" : MUTE ON)
27	NC	O	Not used.
28	SD	I	Tuner tuned detection. ("H" : No signal, "L" : Tuned)
29	STEREO	I	Tuner FM stereo detection. ("H" : MONO, "L" : STEREO)
30	SDATA	I/O	This pin and serial data pin 59 are shorted.
31	BUSY	I/O	Serial busy signal input/output.
32	Vss	-	GND
33~47	Sa~So	O	Fluorescent display segment drive signal output. (Pin 40 muted)
48~51	-	O	Not used.
52~56	G5~G1	O	Fluorescent display digit drive signal output.
57	VFDP	-	Fluorescent display output driver circuit power supply.
58	INT2	I	Not used. This pin and GND are shorted.
59	SDATA	I	This pin and serial data input pin 30 are shorted.
60	XTAL	O	Clock generation circuit output pin.
61	EXTAL	I	Clock generation circuit input pin.
62	RESET	I	Reset signal input.
63	VRUP	O	Volume up operation control. ("H" : UP, "L" : Normal state)
64	VDD	-	+5V power supply.

EXCEPT E, T

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 3. Function description

#### Features

##### 3-1. AMP

- Seven position selector :  
CD, TUNER, PHONO, TAPE1, TAPE2, VIDEO1, VIDEO2
- Six audio output terminals :  
CD, PHONO, TAPE1, TAPE2, VIDEO1, VIDEO2
- Tree output terminals :  
TAPE1, TAPE2
- LINE STRAIGHT

- Speaker A/B change-over
- TAPE2 monitor

##### 3-2. TUNER

- 20ch random preset
- Tuning control by IF count
- Direct selection
- RDS function (E, T type only)

### 4. Conditions according to the destination and model

#### 4-1. AMP

MODEL	DIODE SW		Surround function
	5	4	
KR-V7050	0	0	PRO-LOGIC, 3-STEREO, DSP, DSP-LOGIC
KR-V6050 (Except E, T only)	0	1	PRO-LOGIC, 3-STEREO
KR-A4060/A5060 (E, T only)	1	X	No surround

X : Don't care

#### 4-2. TUNER

Destination	DIODE SW				Band	Receiving Remarks	Channel space	IF	RF	Note
	3	2	1	0						
K1	0	0	0	0	FM	87.5MHz~108.0MHz	100kHz	+10.7MHz	50kHz	
					AM	530kHz~1610kHz	10kHz	+450kHz	10kHz	
K2	0	0	1	0	FM	87.5MHz~108.0MHz	100kHz	+10.7MHz	50kHz	
					AM	530kHz~1700kHz	10kHz	+450kHz	10kHz	
E	0	1	0	0	FM	87.5MHz~108.0MHz	50kHz	+10.7MHz	50kHz	
					AM	531kHz~1602kHz	9kHz	+450kHz	9kHz	
E	1	1	0	0	FM	87.5MHz~108.0MHz	50kHz	+10.7MHz	50kHz	With RDS
					AM	531kHz~1602kHz	9kHz	+450kHz	9kHz	

#### 4-3. Diode matrix : Diode switch No.

	Pin No.	55	56	57	58	59	60
Pin No.	Pin name	KR5	KR4	KR3	KR2	KR1	KR0
61	KS7	Channel space	AM 1610/1700	RDS Yes/No	DSP.DOL/DOL only	Surround Yes/No	(X)
Diode switch No.		2	1	3	4	5	0
Diode Ref. No.		D911	-	D910	-	D909	-

- Diode SW 0→
- Diode SW 1→ AM band range/Except E, T type only
  - 0 : AM NARROW
  - 1 : AM WIDE
- Diode SW 2→ Channel base
  - (Products bound for M : Change-over with switch)
  - 0 : FM 100kHz/step, AM 10kHz/step
  - 1 : FM 50kHz/step, AM 9kHz/step

- Diode SW 3→With/Without RDS/E, T type only
  - 0 : Without RDS
  - 1 : With RDS
- Diode SW 4→Surround mode
  - 0 : Dolby function & DSP function
  - 1 : Dolby function only
- Diode SW 5→With/Without surround
  - 0 : With surround
  - 1 : Without surround



# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 5. Initial state

① POWER OFF	③ TUNER system		
② AMP system	• Band	.....	FM
• Audio selector .....	• Frequency	.....	Lower limit of FM (87.5MHz)
• Video system selector .....	• TUNING mode	.....	AUTO TUNING (AUTO STEREO)
• Speaker A .....	• P.CH indication	.....	--ch
• Speaker B .....	④ Test frequency		
• TAPE 2 monitor .....			
• LINE STARIGHT .....			

	<b>K1 type</b>	<b>K2 type</b>	<b>E type</b>
01ch	FM 98.00MHz	FM 98.00MHz	FM 98.00MHz
02ch	FM108.00MHz	FM108.00MHz	FM108.00MHz
03ch	AM 630 kHz	AM 630 kHz	AM 630 kHz
04ch	AM 990 kHz	AM 990 kHz	AM 990 kHz
05ch	AM 1440 kHz	AM 1440 kHz	AM 1440 kHz
06ch	AM 1610 kHz	AM 1700 kHz	AM 1602 kHz
07ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
08ch	FM 98.50MHz	FM 98.50MHz	FM 98.50MHz
09ch	AM 530 kHz	AM 530 kHz	AM 531 kHz
10ch	FM 89.10MHz	FM 89.10MHz	FM 89.10MHz
11ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
12ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
13ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
14ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
15ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
16ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
17ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
18ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
19ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz
20ch	FM 87.50MHz	FM 87.50MHz	FM 87.50MHz

**Initial setting** Insert the AC power cord plug in the electrical outlet while pushing the "POWER" key.

ET

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 6. Main Unit Test Mode

#### Setting method

Turn the AC power ON while pushing the "TUNING DOWN" key.

#### Cancellation method

Turn the AC power OFF.

#### Contents

##### ① Start of the main unit test mode

The operation gets in the test mode through a main unit key, when the AC power is turned ON while pushing the "TUNING DOWN" key.

##### ***Three operations are carried out in this case.***

- Automatic power ON
- All fluorescent character display tubes and LED light up.
- Initialization of all states except POWER ON/OFF.  
The "All indications lit up" states is cancelled by pushing any key of the main unit.  
The states changed during the test mode are initialized when the main unit test mode is cancelled (AC power OFF).

##### ② Automatic motor VR UP/DOWN (AMP)

The operation (16 sec. UP→16 sec. DOWN→STOP) of the motor is carried out when the "TAPE 2" key is operated. Therefore, "TAPE 2 (MONITOR)" can not be changed-over during the main unit test mode.

##### ③ Mute signal output (AMP)

No control of selector MUTE (MUTE1) is carried out.

##### ④ Test mode operation of 0~9, +10 (TUNER)

- a) When the +10 key is not operated, the channels 1~9 (keys 1~9), as well as the channel 10 (key 0), can be called.
- b) When the +10 key is operated once, the channels 11~19 (keys 1~9), as well as the channel 20 (key 0), can be called.
- c) When the +10 key is operated once again, the operation returns to the case "a) When the +10 key is not operated".

##### ⑤ Processing of keys available only in the remote controller

- Processing related to the AMP : None
- Processing related to the TUNER : None

##### ⑥ Cancellation of the main unit test mode

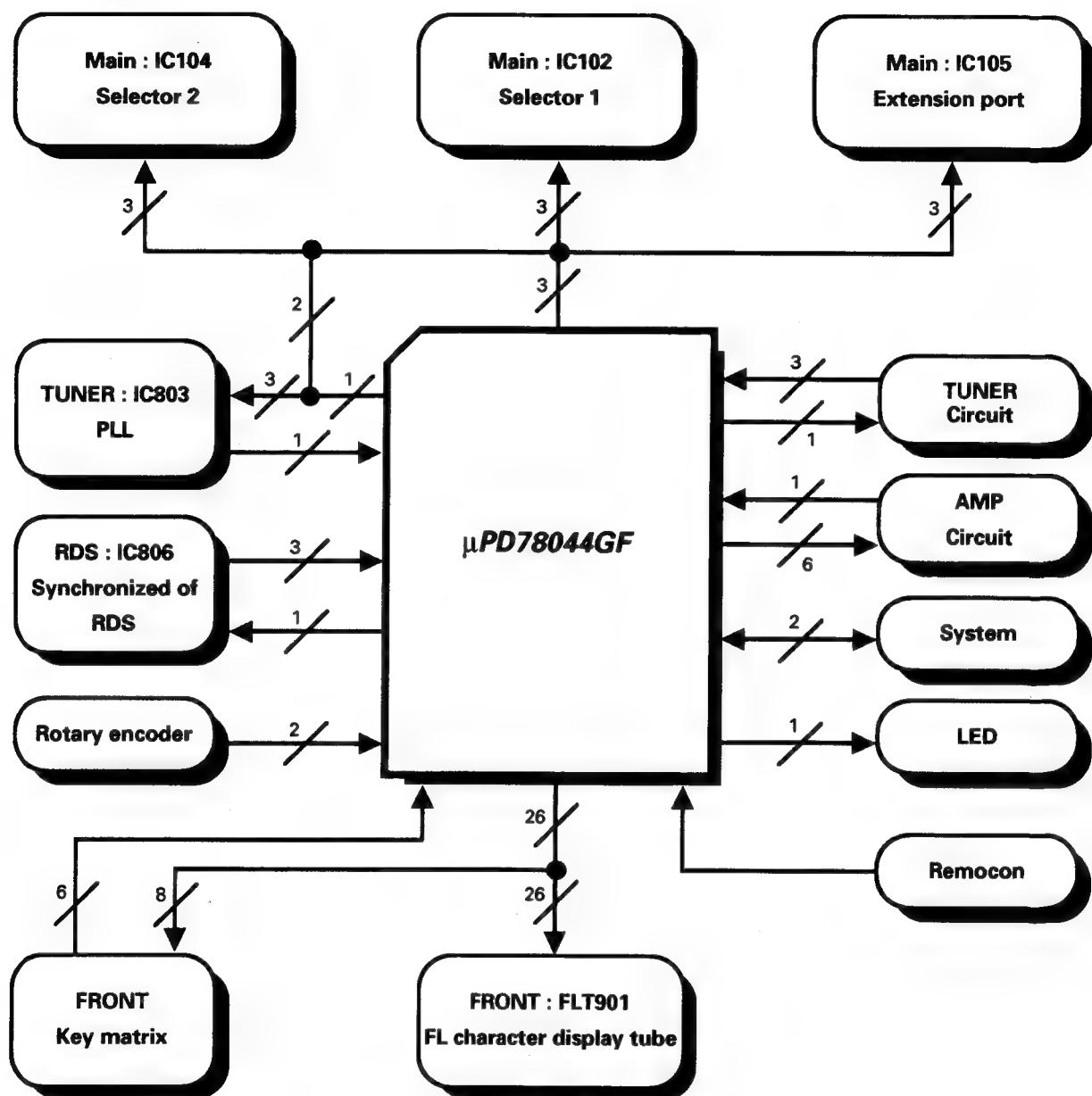
The test mode is cancelled, and the operation returns to the initial state when the AC power is turned OFF during the test mode.

# KR-A4060/A5060

## CIRCUIT DESCRIPTION

7. μ-com : μPD78044GF-021 (Front PCB : IC901)

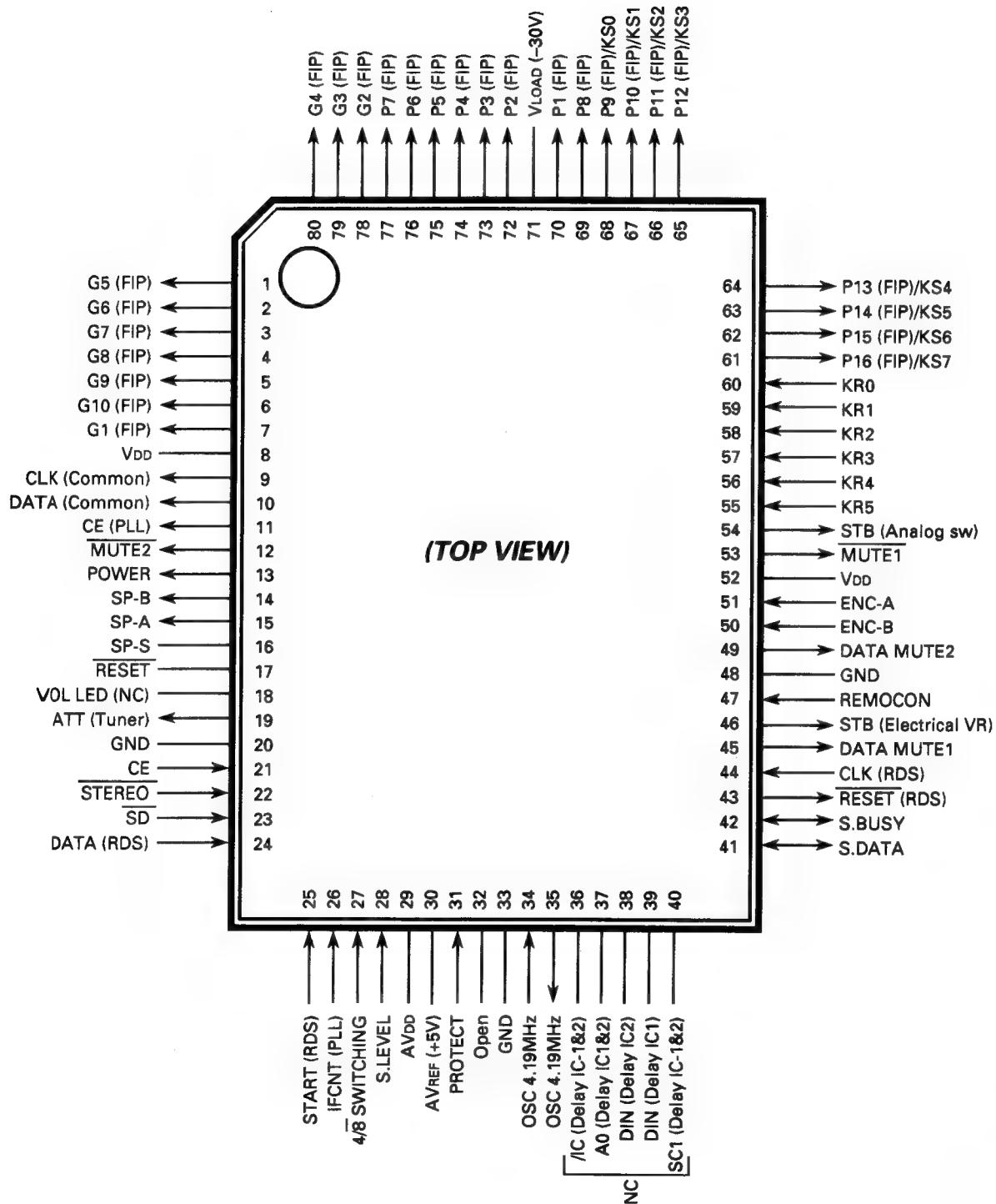
7-1. μ-com periphery block diagram



# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 7-2. Pin connection



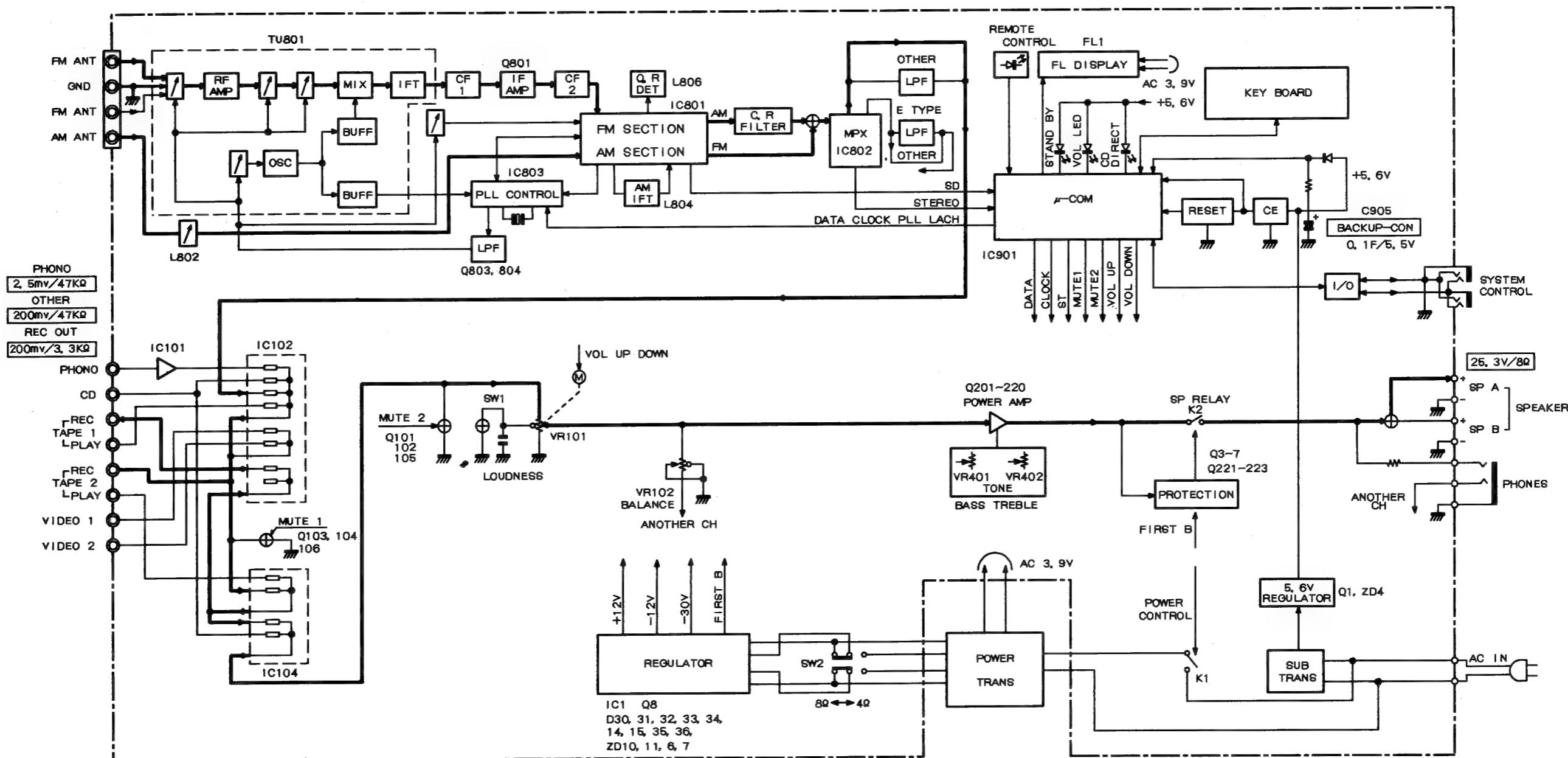
# KR-A4060/A5060

## CIRCUIT DESCRIPTION

### 7-3. Pin function

No.	Name	I/O	Function
1~6, 7	G5~G10, G1	O	FL grid 5~10, and 1.
8	VDD	-	Power supply.
9	CLK (Common)	O	Clock for control IC. (Analog sw/PLL IC/Electronic VOL)
10	DATA (Common)	O	Data for control IC. (Analog sw/PLL IC/Electronic VOL)
11	CE (PLL)	O	PLL CE.
12	<u>MUTE2</u>	O	Amplifier mute control. ("H" : Mute OFF, "L" : Mute ON)
13	POWER	O	Power relay control. ("H" : Power ON, "L" : Power OFF)
14	SP-B	O	Speaker B relay control. ("H" : SP-B ON, "L" : SP-B OFF)
15	SP-A	O	Speaker A relay control. ("H" : SP-A ON, "L" : SP-A OFF)
16	SP-S	-	Not used (open).
17	<u>RESET</u>	I	$\mu$ -com reset.
18	VOL LED	-	Not used (open).
19	ATT (Tuner)	O	Attenuator control ("H" : ATT ON, "L" : ATT OFF)
20	GND	-	A/D power supply.
21	CE	I	$\mu$ -com CE.
22	<u>STEREO</u>	I	Stereo signal detection. ("H" : Monaural, "L" : Stereo)
23	<u>SD</u>	I	Tuning signal detection. ("H" : Not tuned, "L" : Tuned)
24	DATA (RDS)	I	RDS data.
25	START (RDS)	I	RDS start bit.
26	IFCNT (PLL)	I	IF CNT data (PLL DO).
27	4/8 SWITCHING	I	Speaker impedance switching. ("H" : $4\Omega$ , "L" : $8\Omega$ )
28	S.LEVEL	I	Signal level (A/D).
29	AVDD	-	A/D power supply.
30	AVREF	-	A/D reference voltage (+5V).
31	PROTECT	I	Protection detection. ("H" : Protection, "L" : Normal)
32	NC	-	Open.
33	Vss	-	GND
34	X1	I	4.19MHz oscillator.
35	X2	O	4.19MHz oscillator.
36	/IC (DELAY IC-1 & 2)	-	Not used.
37	A0 (DELAY IC-1 & 2)	-	Not used.
38	DIN (DELAY IC-1)	-	Not used.
39	DIN (DELAY IC-2)	-	Not used.
40	SC1 (DELAY IC-1 & 2)	-	Not used.
41	S.DATA	I/O	8-bit system data.
42	S. BUSY	I/O	8-bit system busy.
43	RESET (RDS)	O	RDS reset.
44	CLK (RDS)	I	RDS clock.
45	DT MUTE1	O	Data mute 1. ("H" : ON, "L" : OFF)
46	STB (Electrical VOL)	-	Not used.
47	REMOCON	I	Remote controller input.
48	GND	-	
49	DT MUTE2	-	Not used.
50, 51	ENC-B, ENC-A	I	Encoder input. (50 pin : Encoder B, 51 pin : Encoder A)
52	VDD	-	Power supply.
53	<u>MUTE1</u>	O	Selector MUTE control. ("H" : MUTE OFF, "L" : MUTE ON)
54	STB (Analog sw)	O	Analog sw STB.
55~60	KR5~KR0	I	Key return 5~0. (Pin 56 : Not used)
61~68	P16/KS7~P9/KS0	O	FL segment 16~9 / Key scan 7~0.
69, 70	P8, P1	O	FL segment. (69 pin : Segment 8, 70 pin : Segment 1)
71	-30V (VLOAD)	-	FL drive power supply.
72~77	P2~P7	O	FL segment 2~7.
78~80	G2~G4	O	FL grid 2~4.

# KR-A4060 KR-A4060 BLOCK DIAGRAM



## ADJUSTMENT

AM section : If alignment point is "-", confirm the value. If not, replace the front end pack.

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
<b>FM SECTION</b> <b>SELECTOR : FM</b>							
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, $\pm 75$ kHz dev. 60dB $\mu$ (ANT. input)	Connect a DC voltmeter between TP803 and TP804. (TUNER UNIT)	AUTO or MONO 98.0MHz	L806 (TUNER UNIT)	0V.	(a)
2	VCO	(A) 98.0MHz 0 dev. 60dB $\mu$ (ANT. input)	Connect a Frequency counter between TP805 and TP806. (TUNER UNIT)	AUTO 98.0MHz	L802 (TUNER UNIT)	19.00kHz	(b)
3	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, $\pm 68.25$ kHz dev. Selector : L or R Pilot : $\pm 6.75$ kHz dev. 60dB $\mu$ (ANT. input)	(B)	98.0MHz	IFT (W02-)	Minimum distortion. (L or R)	
4	TUNING LEVEL	(A) 98.0MHz 0 dev. 18dB $\mu$ (ANT. input)	(B)	AUTO or MONO 98.0MHz	VR801 (TUNER UNIT)	Adjust VR801 and stop at the point where FLT901 (TUNED) goes on.	
<b>AM SECTION</b> <b>SELECTOR : AM</b>							
(1)	TUNING LEVEL	(D) 1000 (999) kHz 26dB $\mu$ (ANT. input)	(B)	-	VR804 (TUNER UNIT)	Adjust VR804 and stop at the point where FLT901 (TUNED) goes on.	
<b>AUDIO SECTION</b>							
<1>	IDLE CURRENT	-	Connect a DC voltmeter across CP1 (L), CP2 (R) (MAIN UNIT)	Volume : 0	VR201 (L) VR202 (R) (AUDIO UNIT)	10mV	(d)

## AJUSTES

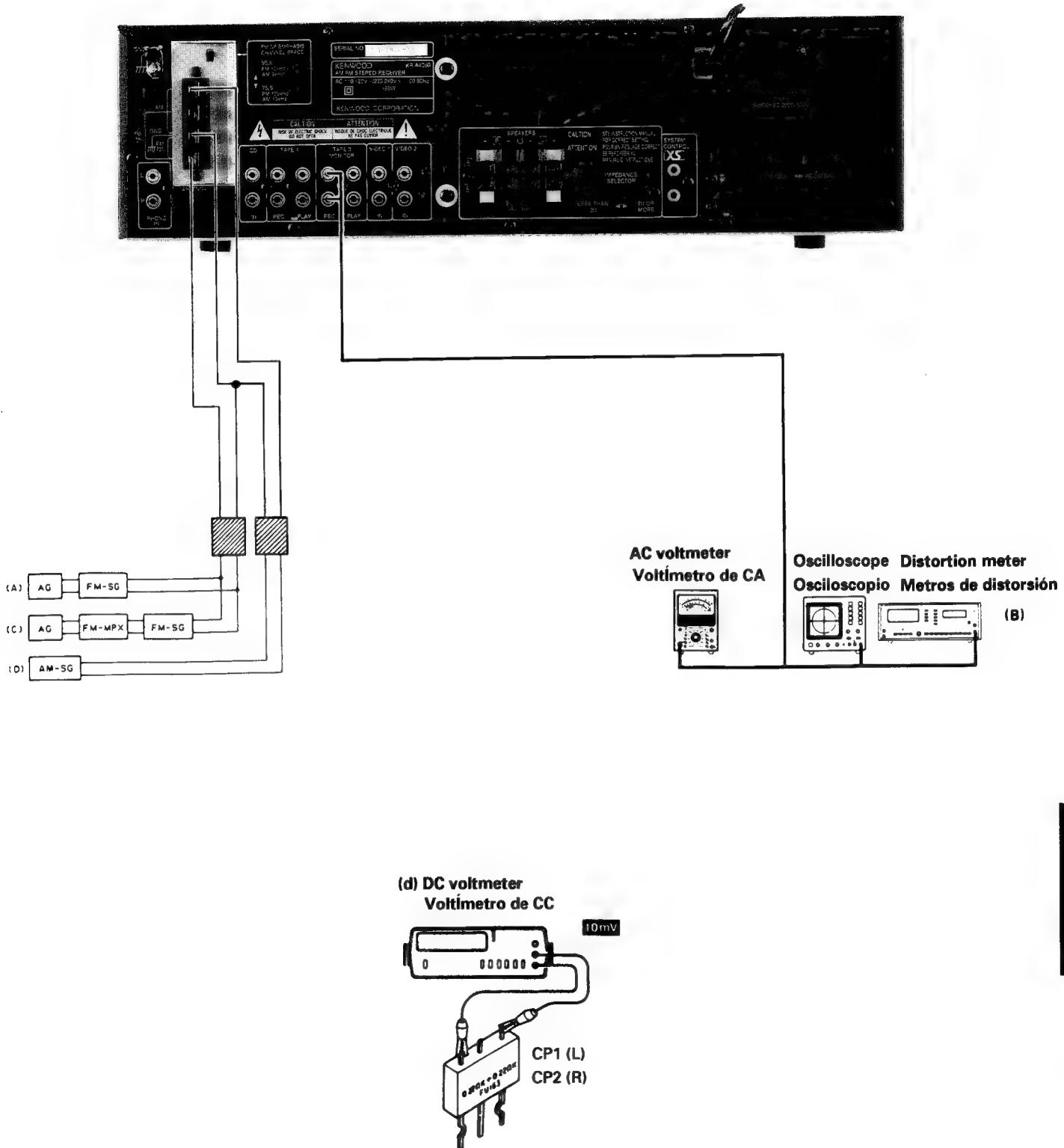
Sección de AM : Si el punto de alineación es "-", confirme el valor. Si no, reemplace el paquete de entrada.

Núm.	ÍTEM	AJUSTES DE ENTRADA	AJUSTES DE SALIDA	AJUSTES DEL SINTONIZADOR	PUNTOS DE ALINEACIÓN	ALINEACIÓN PARA	FIG.
<b>SECCIÓN DE FM</b> <b>SELECTOR : FM</b>							
1	DISCRIMINADOR	(A) 98.0MHz 1kHz, $\pm 75$ kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un voltímetro de CC entre TP803 y TP804. (UNIDAD DEL SINTONIZADOR)	AUTO o MONO 98.0MHz	L806 (UNIDAD DEL SINTONIZADOR)	0V.	(a)
2	VCO	(A) 98.0MHz 0 dev. 60dB $\mu$ (Entrada de antena)	Conecte un Frecuencímetro entre TP805 y TP806. (UNIDAD DEL SINTONIZADOR)	AUTO 98.0MHz	L802 (UNIDAD DEL SINTONIZADOR)	19.00kHz	(b)
3	DISTORSIÓN (ESTÉREO)	(C) 98.0MHz 1kHz, $\pm 68.25$ kHz dev. Selector : L or R Pilot : $\pm 6.75$ kHz dev. 60dB $\mu$ (Entrada de antena)	(B)	98.0MHz	IFT (W02-)	Distorsión mínima. (L o R)	
4	NIVEL DE SINTONÍA	(A) 98.0MHz 0 dev. 18dB $\mu$ (Entrada de antena)	(B)	AUTO o MONO 98.0MHz	VR801 (UNIDAD DEL SINTONIZADOR)	Ajuste VR801 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AM</b> <b>SELECTOR : AM</b>							
(1)	NIVEL DE SINTONÍA	(D) 1000 (999) kHz 26dB $\mu$ (Entrada de antena)	(B)	-	VR804 (UNIDAD DEL SINTONIZADOR)	Ajuste VR801 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AUDIO</b>							
<1>	CORRIENTE EN REPOSO	-	Conecte un voltímetro de CC entre CP1 (L) y CP2 (R) (UNIDAD PRINCIPAL)	Volumen : 0	VR201 (L) VR202 (R) (UNIDAD AUDIO)	10mV	(d)

EXCEPT ET

## ADJUSTMENT/AJUSTES

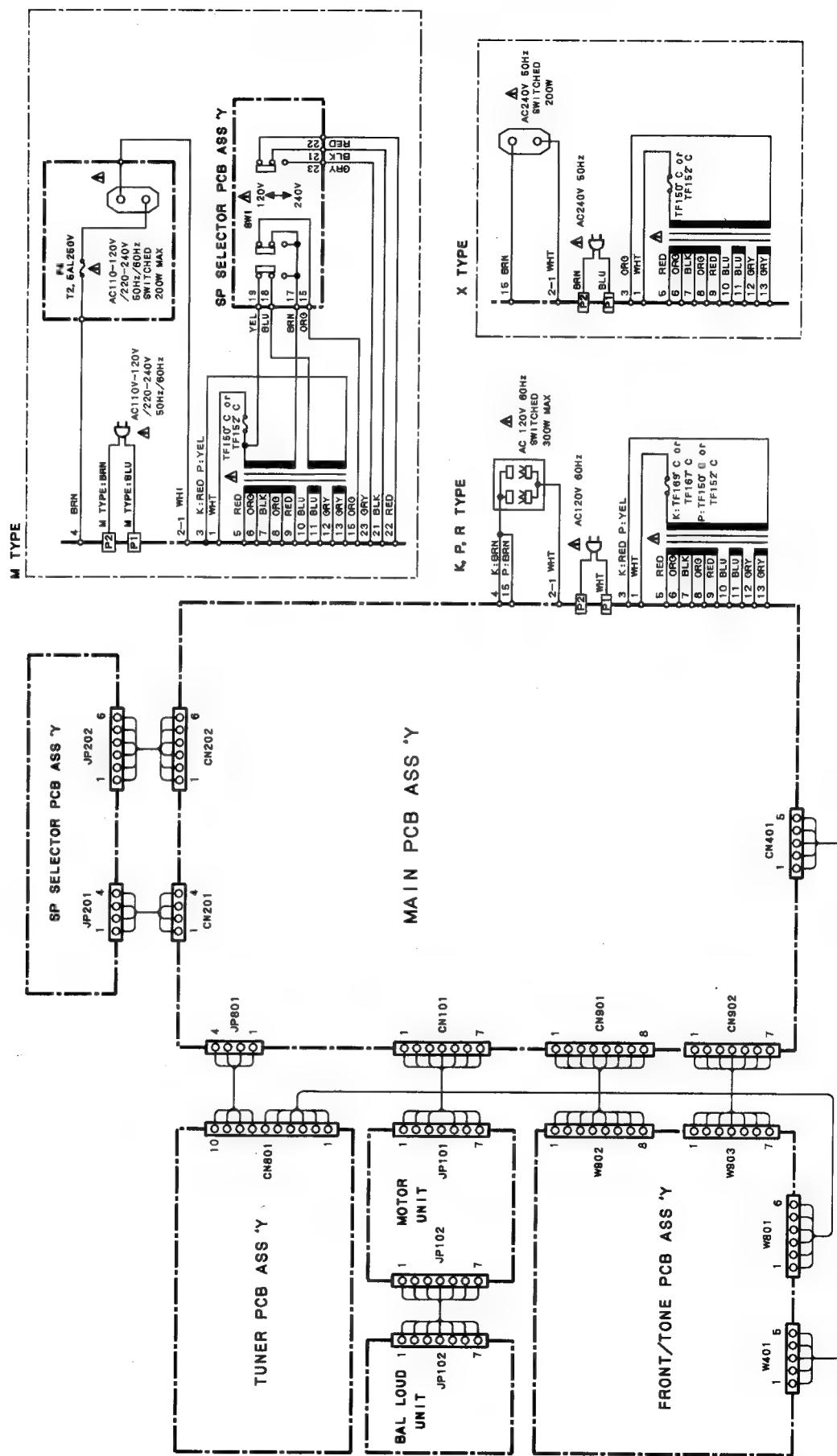
### SYSTEM CONNECTIONS/CONEXIONES DEL SISTEMA



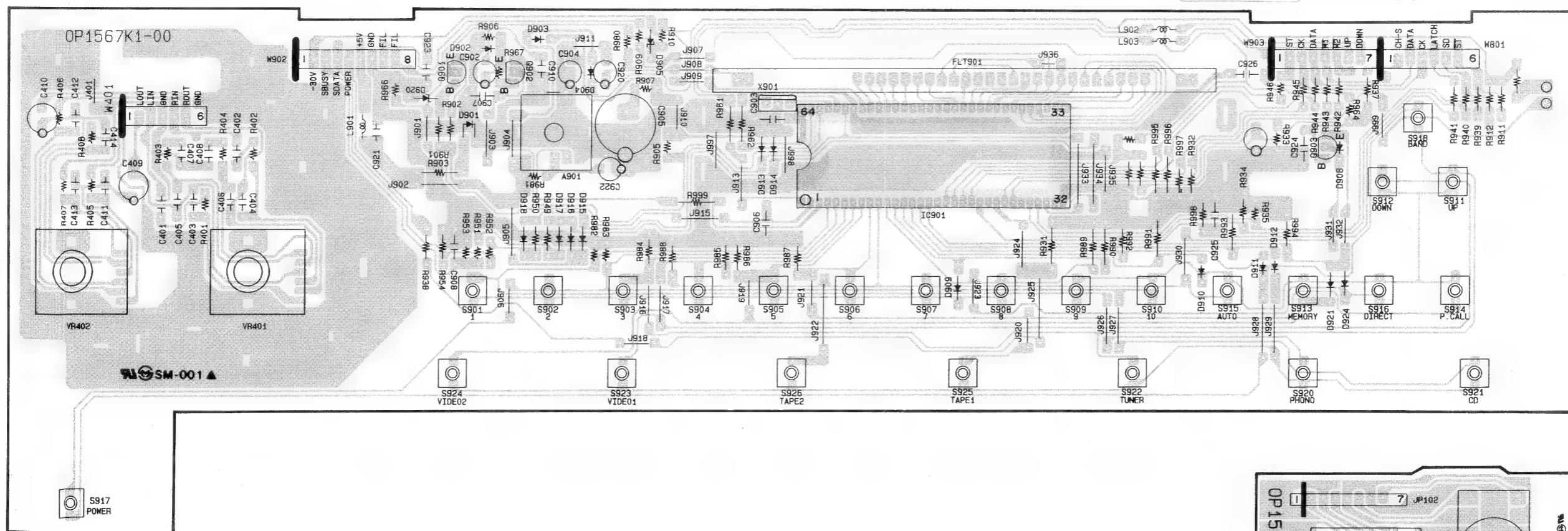
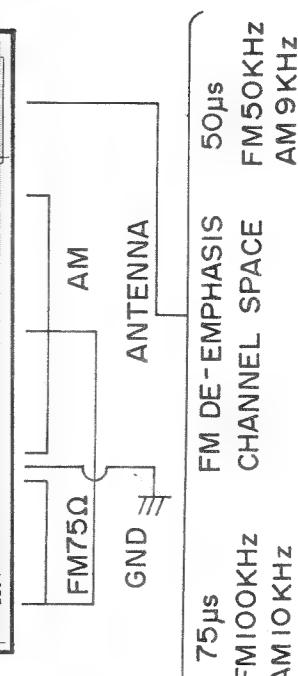
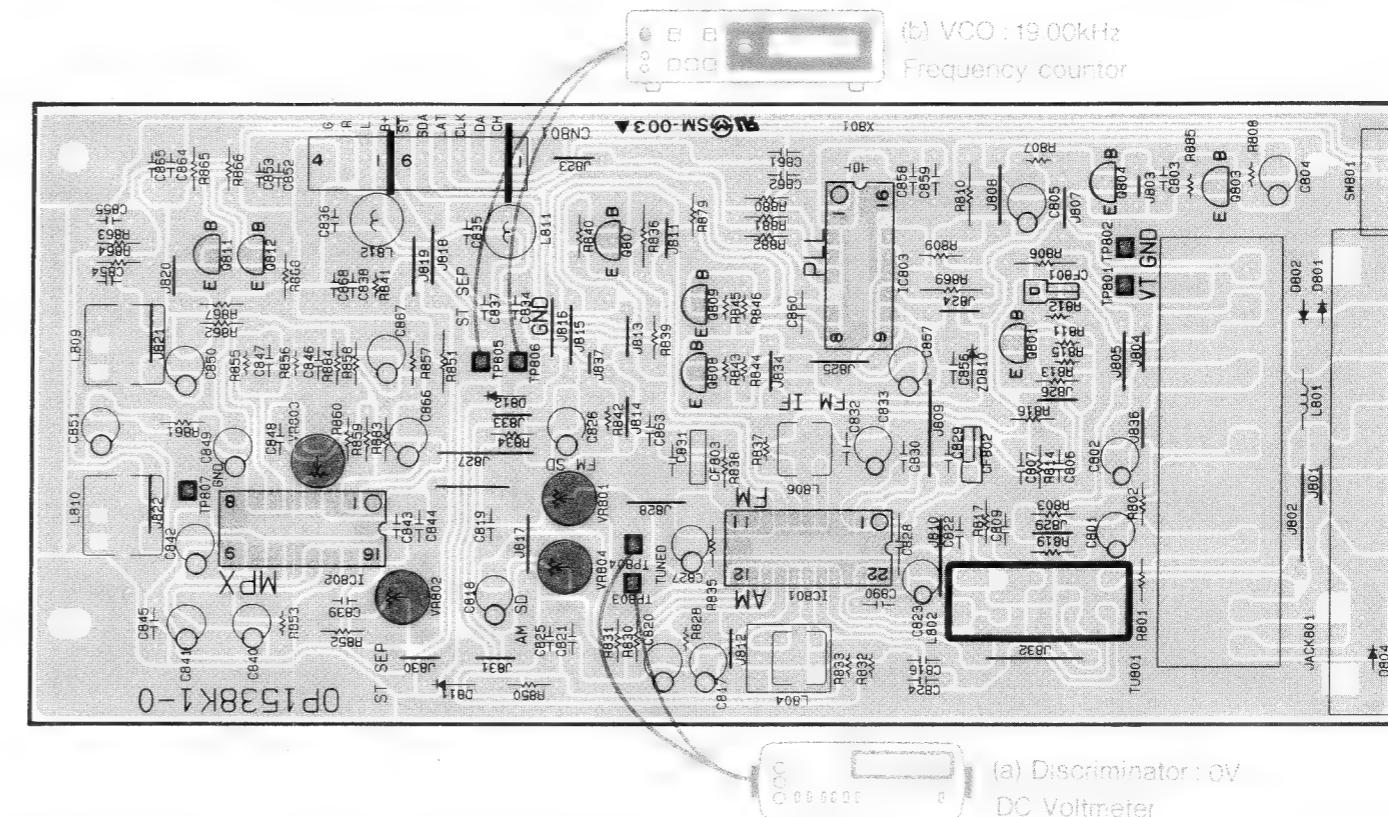
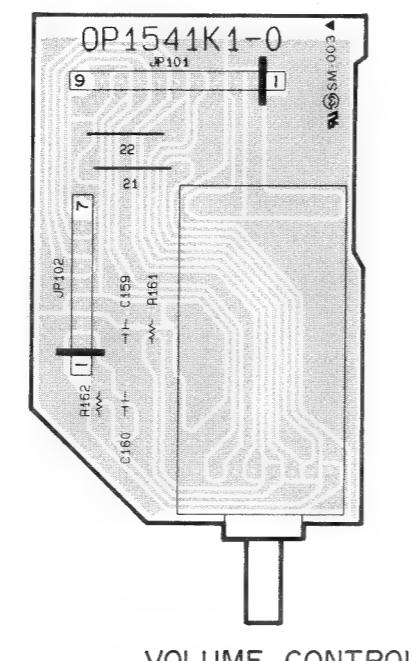
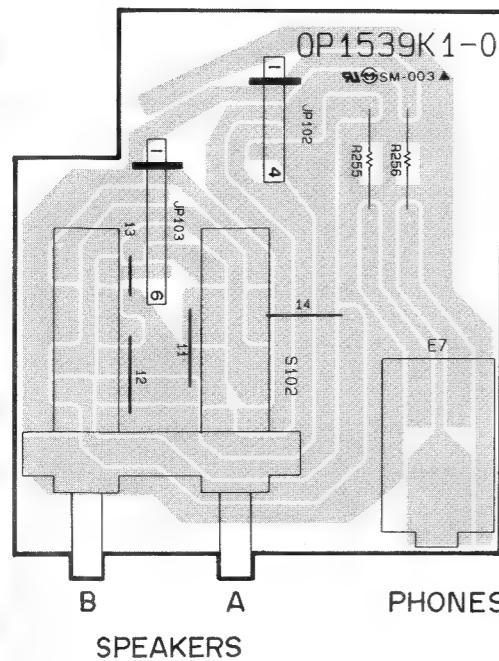
KR-A4060

## WIRING DIAGRAM

## EXCEPT E.T.



## PC BOARD (COMPONENT SIDE VIEW) : KR-A4060



Refer to the schematic diagram for the values of resistors and capacitors

21

LOUDNESS      BALANCE  
ON      OFF      L      R

A black downward-pointing arrow, indicating the front cover of the book.

## **PC BOARD (COMPONENT SIDE VIEW) : KR-A4060**

AC110-120V~ / 220-240V~  
50 / 60Hz  
SWITCHED 200W MAX.

SWITCHED 200W MAX.

A downward-pointing arrow indicating the front of the card.

FRONT

SYSTEM 8Ω OR LESS  
CONTROL MORE → THAN 8Ω

SPEAKERS

TAPE 2  
MONITOR                    TAPE 1                    CD  
2                            PLAY                    REC                    IN

PHONO IN

L VIDEO I VID  
R IN IN

## MONIT

TOR T

TAPE I

CD

L VIDEO1 VIDEO2   
R IN IN PLAY

REC PLAY

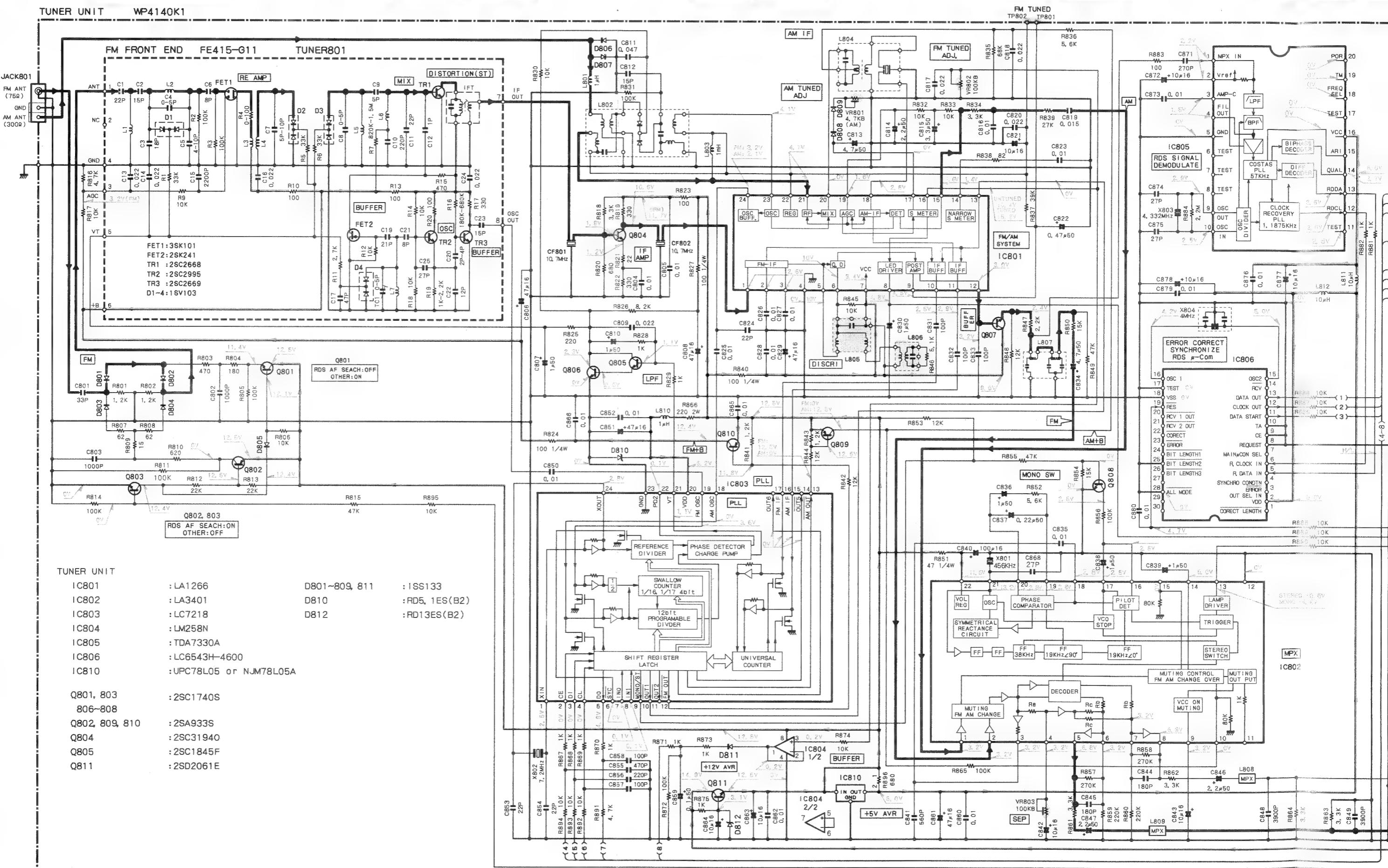
REC

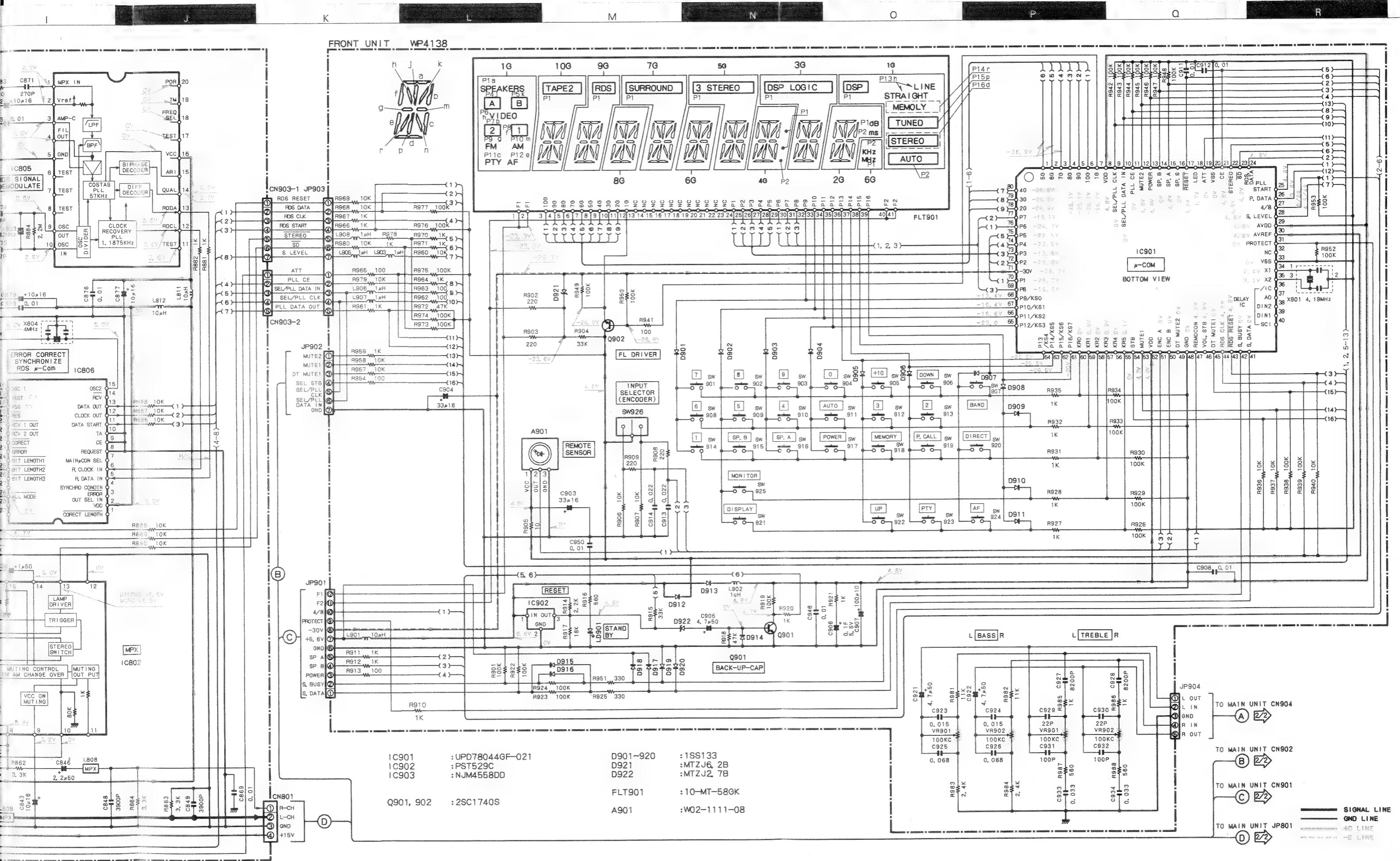
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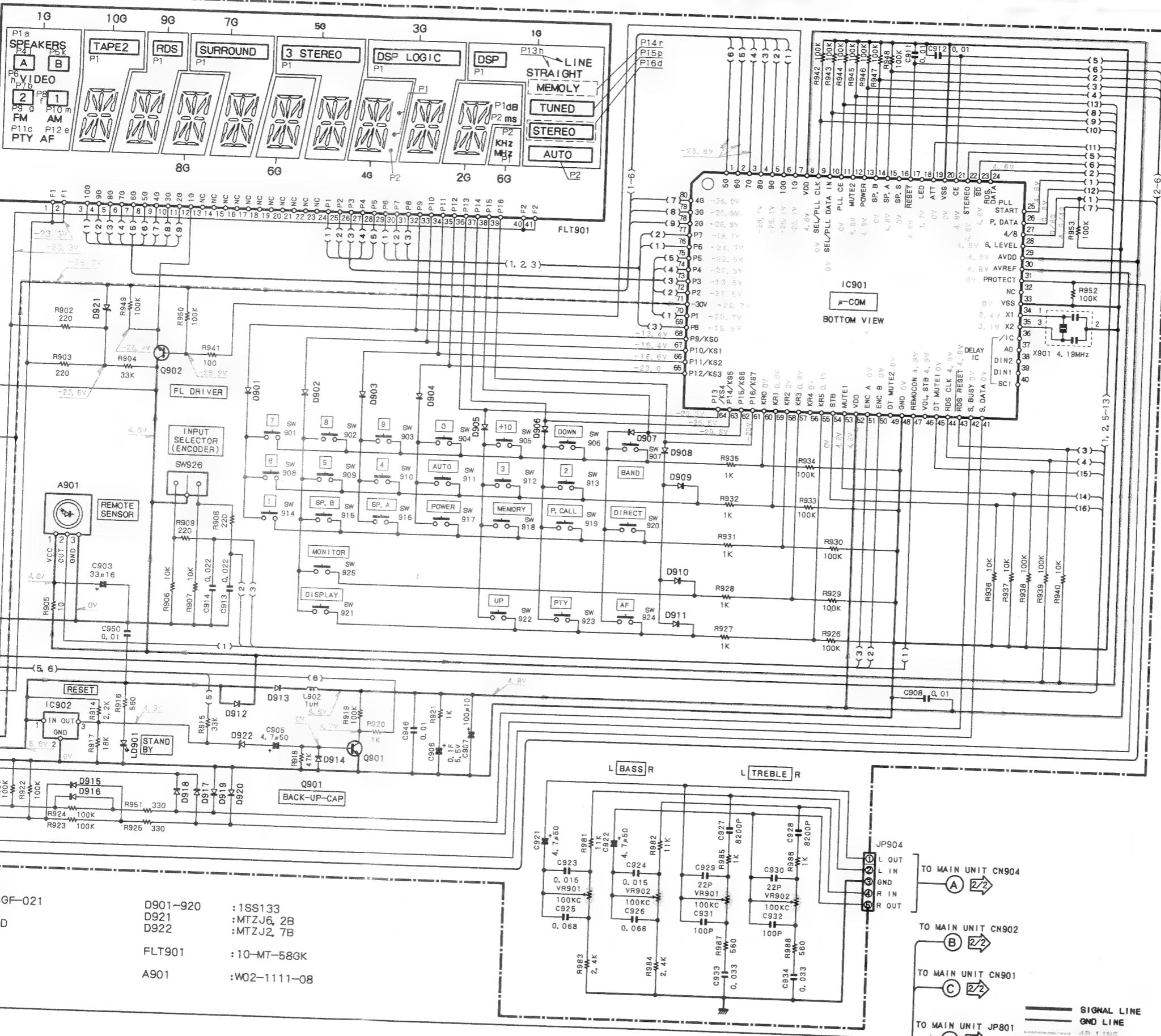
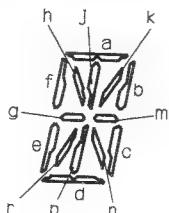
PHONO L  
IN R

EXCEPT ET

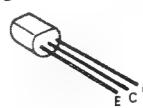
OP1536K1-06



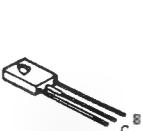




2SA992  
2SC1845  
2SC2878



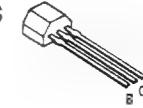
2SD882



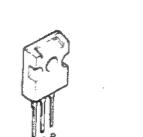
2SA1695  
2SC4467



DTA114ES  
DTC114ES  
2SA933S  
2SC1740S

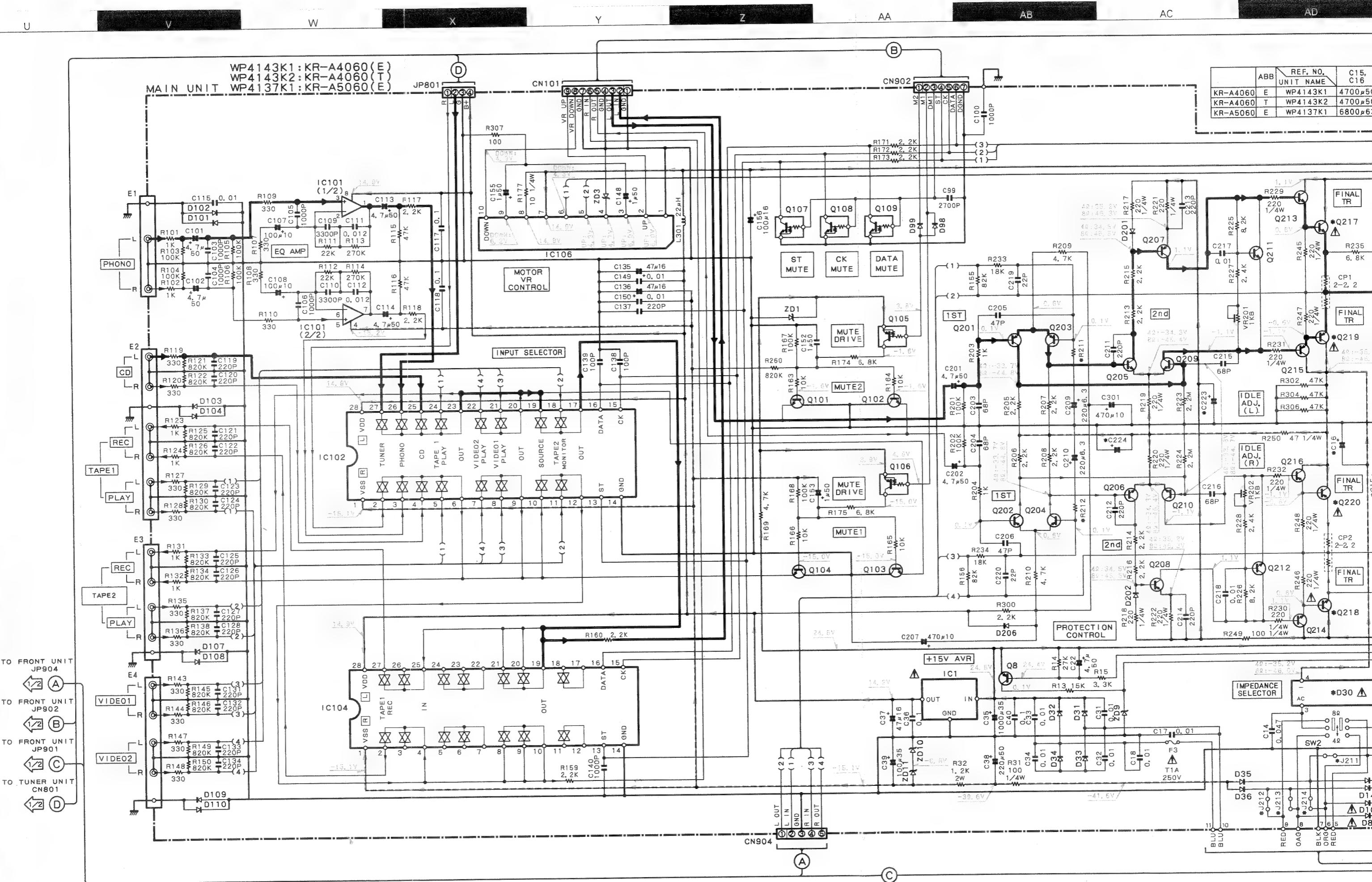


2SC4137



\* DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



AC

AD

AE

AF

AG

AH

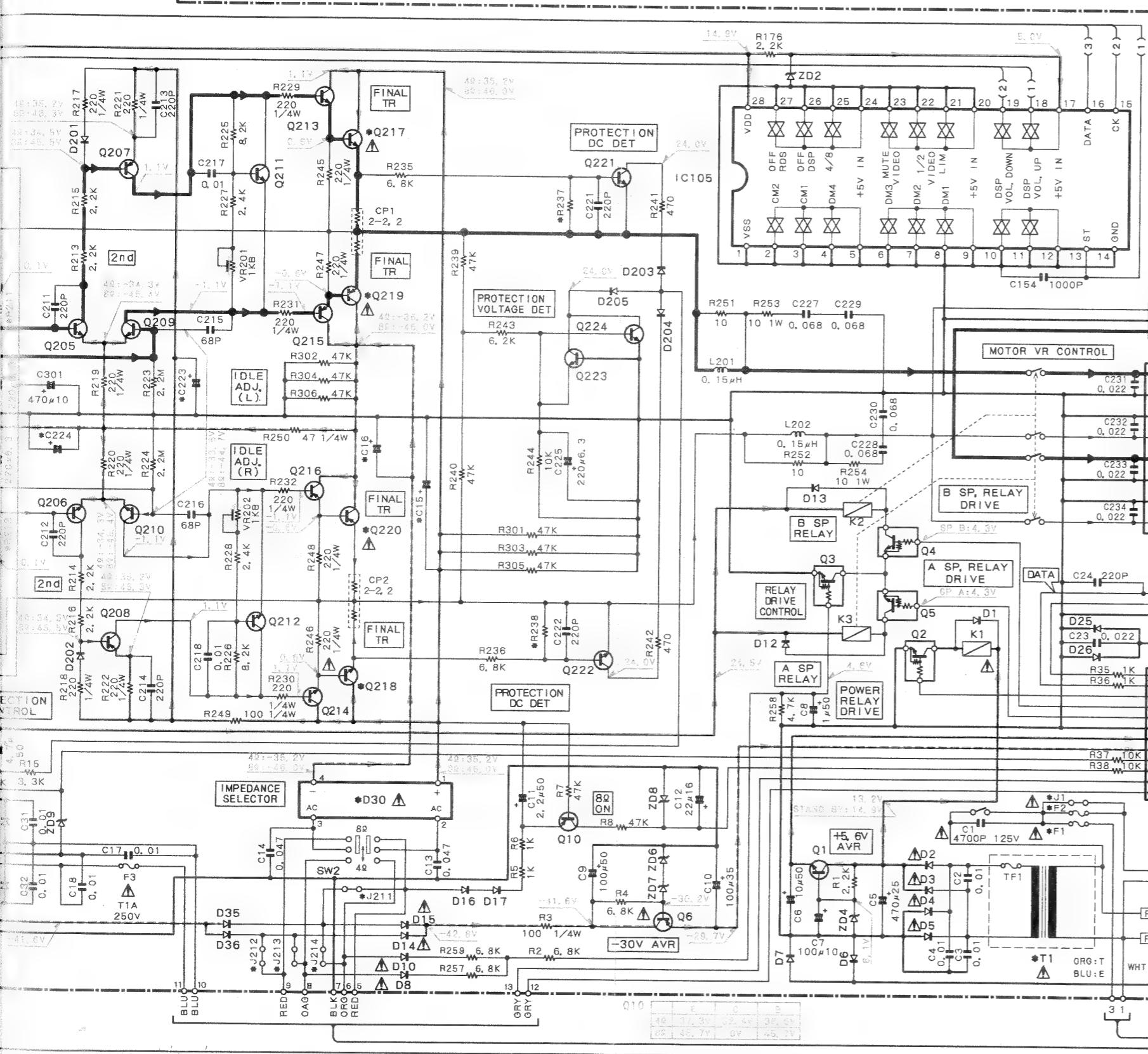
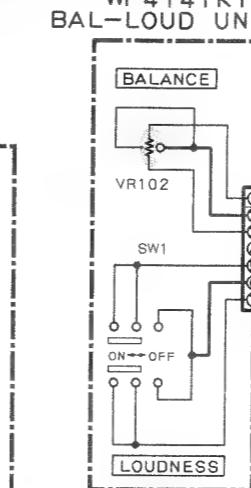
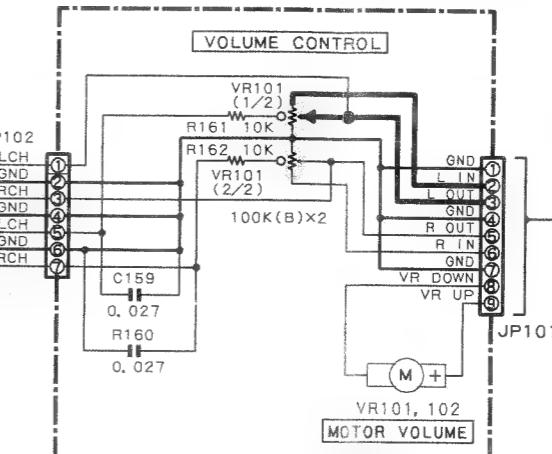
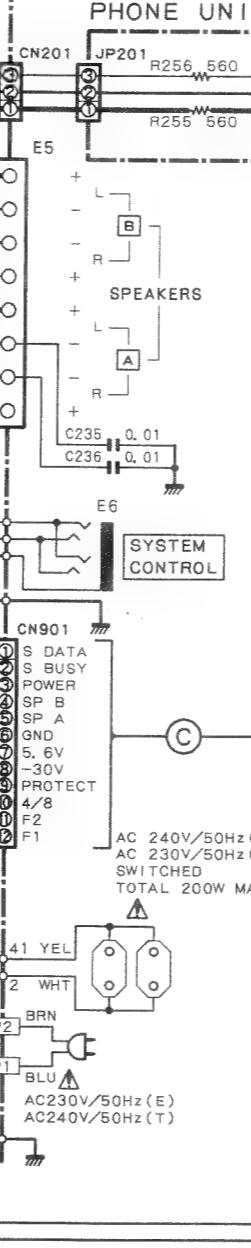
AI

AJ

AK

AL

	ABB	REF. NO.	C15, C16	C223	C224	D30	F1	F2	R211, R212	R237, R238	Q217, Q218	Q219, Q220	J211, J212	J213, J214	T1
KR-A4060	E	WP4143K1	4700 $\mu$ 50	47 $\mu$ 50	100 $\mu$ 50	DBF40C	T1, 6A/250V	T2, 5A/250V	820	2, 7K	2SC4467	2SA1694	YES	NO	L07-0828-08
KR-A4060	T	WP4143K2	4700 $\mu$ 50	47 $\mu$ 50	100 $\mu$ 50	DBF40C	T1, 6A/250V	J1	820	2, 7K	2SC4467	2SA1694	YES	NO	L07-0825-08
KR-A5060	E	WP4137K1	6800 $\mu$ 63	47 $\mu$ 63	100 $\mu$ 63	DBF60C	T2A/250V	680	2, 2K	2SC4468	2SA1695	NO	YES	L07-0828-08	

WP4141K1  
BAL-LOUD UNITWP4142K1  
MOTOR VR UNITWP4139K1  
PHONE UNIT

MC7815C  
: NJM4558DD  
: TC9164N or NJU7313L  
: TC9162N or NJU7311L  
: TC9163N or NJU7312AL  
: BA6209N

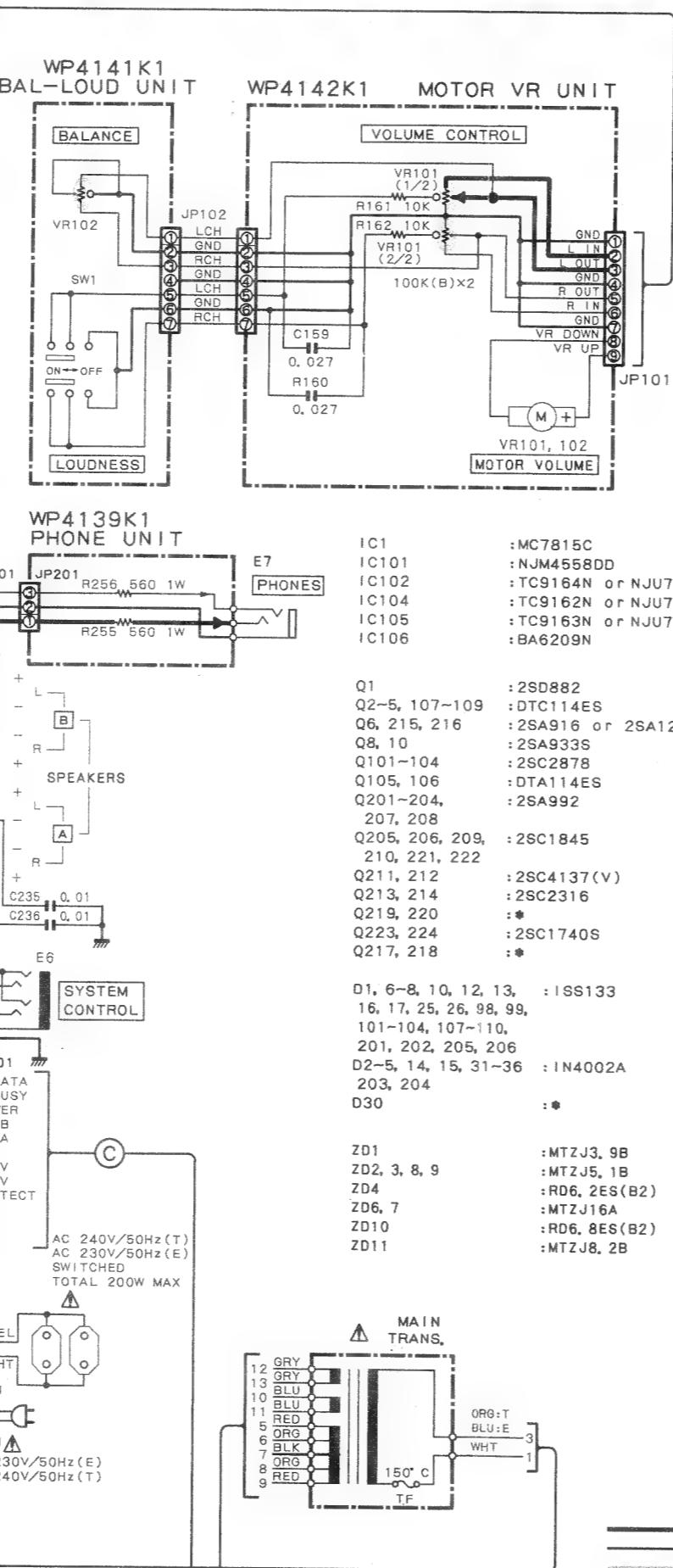
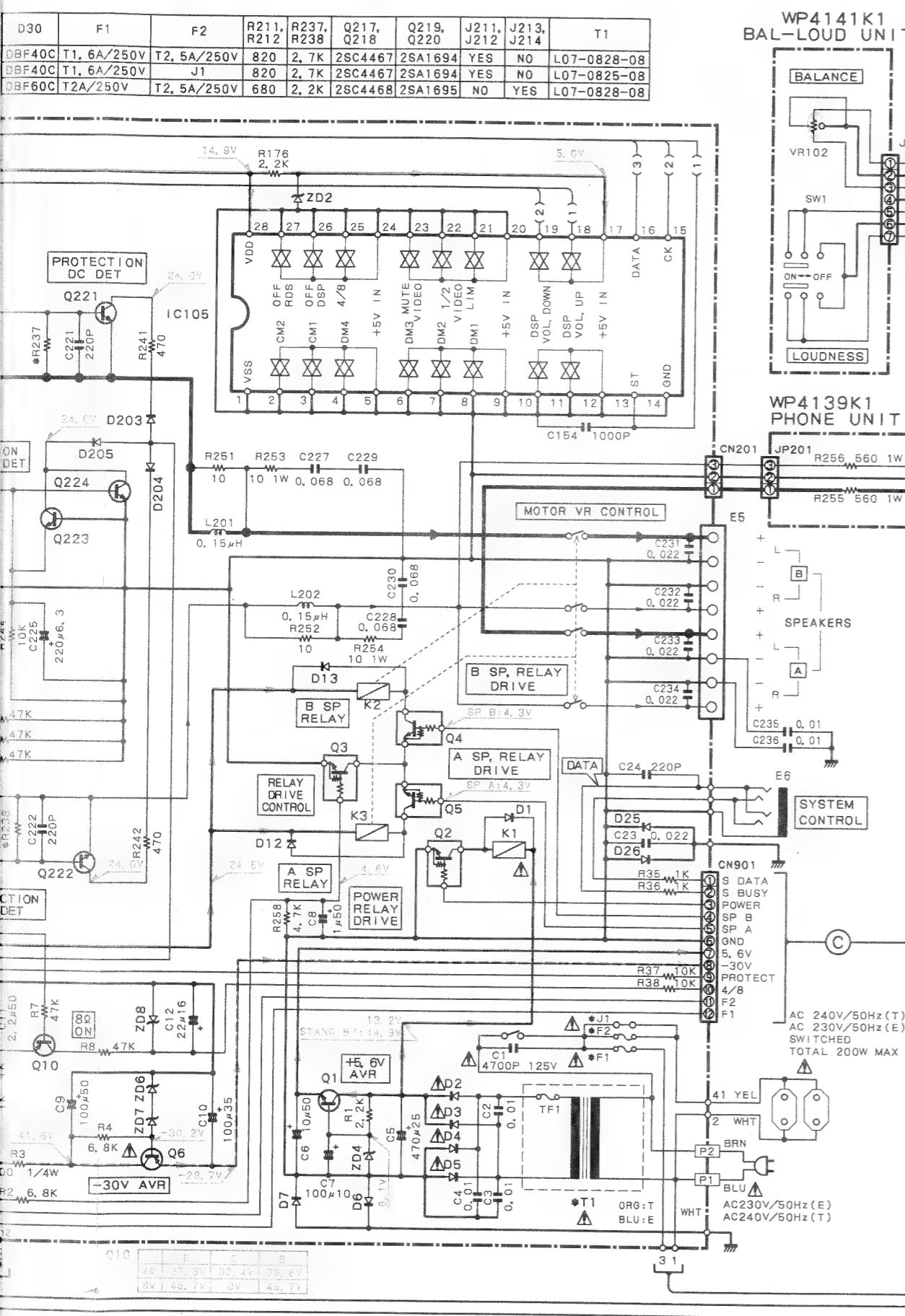
Q1 : 2SD882  
Q2-5, 107-109 : DTC114ES  
Q6, 215, 216 : 2SA916 or 2SA1274  
Q8, 10 : 2SA933S  
Q101-104 : 2SC2878  
Q105, 106 : DTA114ES  
Q201-204, 207, 208 : 2SA992  
Q205, 206, 209, 210, 221, 222 : 2SC1845  
Q211, 212 : 2SC4137(V)  
Q213, 214 : 2SC2316  
Q219, 220 : \*  
Q223, 224 : 2SC1740S  
Q217, 218 : \*

D1, 6-8, 10, 12, 13, 16, 17, 25, 26, 98, 99, 101-104, 107-110, 201, 202, 205, 206  
D2-5, 14, 15, 31-36 : IN4002A  
D204, 203 : 204  
D30 : \*  
ZD1 :  
ZD2, 3, 8, 9 : MTZJ3, 9B  
ZD4 : MTZJ5, 1B  
ZD6, 7 : RD6, 2ES(B2)  
ZD10 : MTZJ16A  
ZD11 : RD6, 8ES(B2)  
ZD11 : MTZJ8, 2B

ZD1 :  
ZD2, 3, 8, 9 : MTZJ3, 9B  
ZD4 : MTZJ5, 1B  
ZD6, 7 : RD6, 2ES(B2)  
ZD10 : MTZJ16A  
ZD11 : RD6, 8ES(B2)  
ZD11 : MTZJ8, 2B

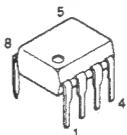
MAIN TRANS.  
AC 240V/50Hz (T)  
AC 230V/50Hz (E)  
SWITCHED TOTAL 200W MAX  
AC 230V/50Hz (E)  
AC 240V/50Hz (T)

SIGNAL LINE  
GND LINE  
48 LINE

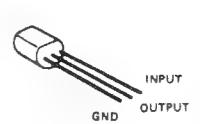


SIGNAL LINE  
 GND LINE  
 4 LINE  
 -3 LINE

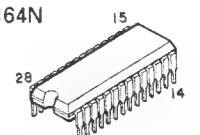
NJM4558DD



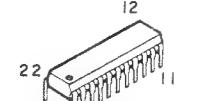
PST529C



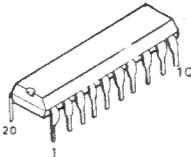
TC9162N  
 TC9163N  
 TC9164N



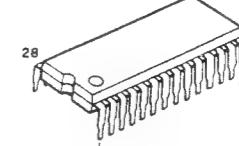
LA3401



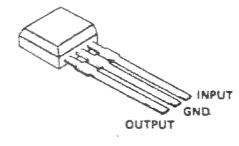
TDA7330A



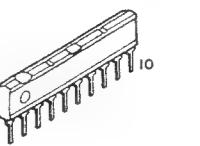
NJU7311L  
 NJU7313L



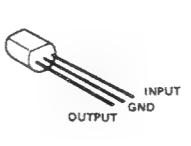
UPC78L05



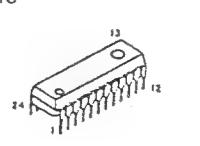
BA6209N



NJM78L05A



LA1266  
 LC7218



IC1 : MC7815C  
 IC101 : NJM4558DD  
 IC102 : TC9164N or NJU7313L  
 IC104 : TC9162N or NJU7311L  
 IC105 : TC9163N or NJU7312AL  
 IC106 : BA6209N

Q1 : 2SD882  
 Q2~5, 107~109 : DTC114ES  
 Q6, 215, 216 : 2SA916 or 2SA1274  
 Q8, 10 : 2SA933S  
 Q101~104 : 2SC2878  
 Q105, 106 : DTA114ES  
 Q201~204, 207, 208 : 2SA992  
 Q205, 206, 209, 210, 221, 222 : 2SC1845  
 Q211, 212 : 2SC4137(V)  
 Q213, 214 : 2SC2316  
 Q219, 220 : \*  
 Q223, 224 : 2SC1740S  
 Q217, 218 : \*

D1, 6~8, 10, 12, 13, 16, 17, 25, 26, 98, 99, 101~104, 107~110, 201, 202, 205, 206 D2~5, 14, 15, 31~36 : IN4002A  
 203, 204 D30 : \*  
 ZD1 : MTZJ3, 9B  
 ZD2, 3, 8, 9 : MTZJ5, 1B  
 ZD4 : RD6, 2ES(B2)  
 ZD6, 7 : MTZJ16A  
 ZD10 : RD6, 8ES(B2)  
 ZD11 : MTZJ8, 2B

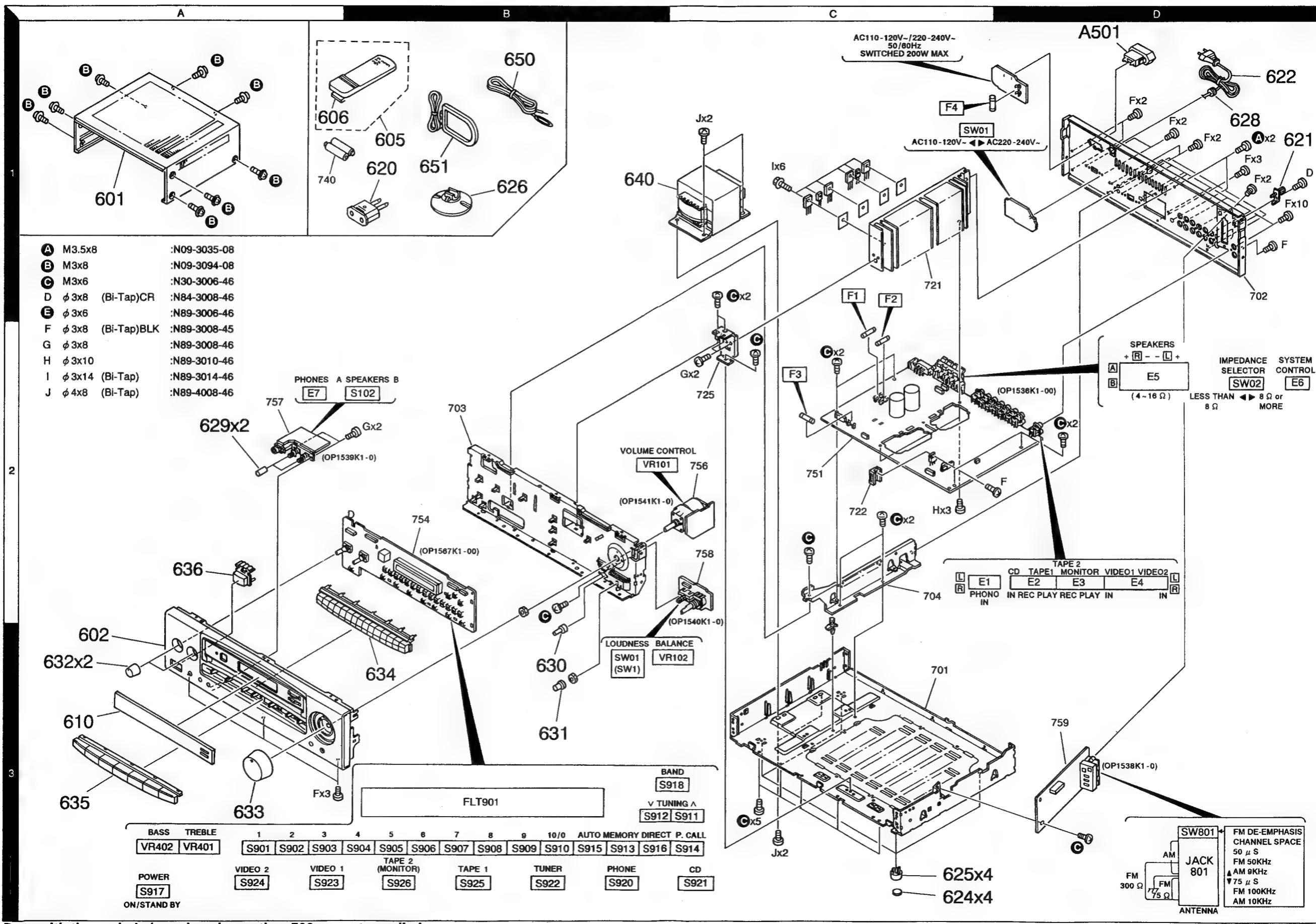
MAIN TRANS.  
 12 GRY  
 13 GRY  
 10 BLU  
 11 BLU  
 5 RED  
 6 ORG  
 7 BLK  
 8 ORG  
 9 RED  
 41 YEL  
 2 WHT  
 1 BRN  
 P1 BLU  
 AC230V/50Hz(E)  
 AC240V/50Hz(T)  
 150°C  
 1

\* DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

# KR-A4060 KR-A4060

## EXPLODED VIEW (UNIT)



**Parts with the exploded numbers larger than 700 are not supplied**



KR-A4060

PARTS LIST

6

Ref. No.	Address	Parts No.	品名番号	Description	品名番号	Parts No.	品名番号	Description	品名番号	Parts No.	品名番号	Destination	Remarks
Ref. No.	Address	Parts No.	品名番号	Ref. No.	Address	Parts No.	品名番号	Ref. No.	Address	Parts No.	品名番号	Destination	Remarks
R177		RD14GB2E100J	FL-PROOF RD 10	J 1/4W	JU7313L								
R217-222		RD14GB2E221J	FL-PROOF RD 220	J 1/4W	TC9164N								
R229-232		RD14GB2E40J	FL-PROOF RD 47	J 1/4W	JU7311L								
R245-248		RD14GB2E221J	FL-PROOF RD 220	J 1/4W	TC9162N								
R249		RD14GB2E101J	FL-PROOF RD 100	J 1/4W	BA6209N								
R250		RD14GB2E470J	FL-PROOF RD 47	J 1/4W	LA1265								
R251, 254		RD14DB2A100J	FL-PROOF RS 10	J 1W	IC801								
R255, 256		RD14DB2A56J	FL-PROOF RS 560	J 1W	IC802								
R806		RD14GB2E101J	FL-PROOF RD 100	J 1/4W	IC803								
R810		RD14GB2E101J	FL-PROOF RD 100	J 1/4W	IC901								
R836		RD14GB2E820J	FL-PROOF RD 100	J 1/4W	IC901								
R851		RD14GB2E221J	FL-PROOF RD 82	J 1/4W	2SC316								
R869		*	FL-PROOF RD 220	J 1/4W	2SC1740S								
VR101		R39-0001-08	POTENTIOMETER	VOLUME 100KBX2	DTC114ES								
VR102		R10-5071-08	POTENTIOMETER	BALANCE	2SA16								
VR201, 202		R12-1066-05	TRIMMING POT.	10LE ADJ 1KB	2SC316								
VR401, 402		R3-0002-08	TRIM POT.	33KB FM TUNE LEVEL	DTC114ES								
VR801		R1-3166-08	TRIM POT.	4.7KB VC0 TUNE LEVEL	2SA16								
VR812		R12-1053-05	TRIM POT.	10KB AM TUNE LEVEL	DTC114ES								
VR804		R12-3071-05	TRIM POT.	10KB AM TUNE LEVEL	2SA16								
K1		KTR-0026M1	MAGNETIC RELAY POWER	Q0207, 208	2SA992								
K2		S75-0035-08	PUSH SWITCH	Q0209, 210	2SC1845								
S102		S42-2116-05	KEYBOARD	Q0211, 212	2SC137								
S902-918		*	TAUT SWITCH	Q0213, 214	2SC316								
S920-926		*	KEYBOARD	Q0215, 216	2SA916								
SW01		S31-3010-08	SLIDE SWITCH	Q0217, 218	2SC1468								
SW1		S60-0040-08	VOLTAGE SELECT	Q0219, 210	2SA1695								
SW2		S62-0032-08	LOUDNESS SEL	Q0221, 222	2SC1845								
SW801		S62-0012-08	IMPEDANCE SEL	Q0223, 224	2SC1740S								
D1		ISS131	SLIDE SWITCH	Q0801	KTC1940								
D12		D100E	DIODE	Q0803	2SC1740S								
D2-5		1N4002A	DIODE	Q0804	2SC1845F								
D30		DB860C	DIODE	Q0808, 809	2SA333S								
D6-9		ISS131	DIODE	Q0811, 812	2SC1740S								
D101-112		ISS131	DIODE	Q9901	2SA933S								
D107-110		ISS131	DIODE	Q9902	2SC1740S								
D14-15		1N002A	DIODE	Q9903	DTA143TS								
D20-205		ISS131	DIODE	Q9912	MT23.9B								
D25-26		ISS131	DIODE	Q9913	MT25.1B								
D31-36		1N002A	DIODE	Q9914	MT26.2B								
D37-38		ISS131	DIODE	Q9915	RD156S(B2)								
D80-802		ISS131	DIODE	Q9916	MT212B								
D810		RD1.1ES(B2)	DIODE	Q9917	MTZ16.2B								
D811, 812		ISS133	DIODE	Q9918	W02-1111-08								
D905-904		ISS133	DIODE	Q9919	W02-2504-08								
D905		MT2J6.9B	DIODE	Q9920	ELECTRIC CIRCUIT MODULE								
D908		ISS133	DIODE	Q9921	FM FRONT END UNIT								
D908-918		ISS133	DIODE	Q9922									
D920		ISS133	DIODE	Q9923									
D921		ISS133	DIODE	Q9924									
FLT001		5-17-167GK	FLUORESCENT INDICATOR TUBE	KPR									
IC1		KIA78012AP	IC(+12V AVR)										
IC101		NJH4556DD	IC(8P AMP X2)										

L: Scandinavia K: USA P: Canada R: Mexico  
 V: PX (Far East, Hawaii) T: England E: Europe G: Germany  
 Y: AAES (Europe) X: Australia M: Other Areas W: Other Areas  
 △ indicates safety critical components

EXCEPT E1

\* New Parts  
 Parts without Parts No. are not supplied.  
 Les articles non mentionnés dans la Parts No. ne sont pas fournis.  
 Teile ohne Parts No. werden nicht geliefert.

\* New Parts  
 Parts without Parts No. are not supplied.  
 Les articles non mentionnés dans la Parts No. ne sont pas fournis.  
 Teile ohne Parts No. werden nicht geliefert.

\* New Parts  
 Parts without Parts No. are not supplied.  
 Les articles non mentionnés dans la Parts No. ne sont pas fournis.  
 Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	Parts No.	品名番号	Description	品名番号	Parts No.	品名番号	Description	品名番号	Parts No.	品名番号	Destination	Remarks
R177		RD14GB2E100J	FL-PROOF RD 10	J 1/4W	JU7313L								
R217-222		RD14GB2E221J	FL-PROOF RD 220	J 1/4W	TC9164N								
R229-232		RD14GB2E40J	FL-PROOF RD 47	J 1/4W	JU7311L								
R245-248		RD14GB2E221J	FL-PROOF RD 220	J 1/4W	TC9162N								
R249		RD14GB2E101J	FL-PROOF RD 100	J 1/4W	BA6209N								
R250		RD14GB2E470J	FL-PROOF RD 47	J 1/4W	LA1265								
R251, 254		RD14DB2A100J	FL-PROOF RS 10	J 1W	IC801								
R255, 256		RD14DB2A56J	FL-PROOF RS 560	J 1W	IC802								
R806		RD14GB2E101J	FL-PROOF RD 100	J 1/4W	IC803								
R810		RD14GB2E101J	FL-PROOF RD 100	J 1/4W	IC901								
R836		RD14GB2E820J	FL-PROOF RD 82	J 1/4W	IC901								
R851		RD14GB2E221J	FL-PROOF RD 220	J 1/4W	2SC316								
R869		*	FL-PROOF RD 220	J 1/4W	2SC1740S								
VR101		R39-0001-08	POTENTIOMETER	VOLUME 100KBX2	DTC114ES								
VR102		R10-5071-08	POTENTIOMETER	BALANCE	2SA16								
VR201		R12-1066-05	TRIMMING POT.	10LE ADJ 1KB	2SC316								
VR401, 402		R3-0002-08	TRIM POT.	33KB FM TUNE LEVEL	DTC114ES								
VR801		R1-3166-08	TRIM POT.	4.7KB VC0 TUNE LEVEL	2SA16								
VR812		R12-1053-05	TRIM POT.	10KB AM TUNE LEVEL	2SC316								
VR804		R12-3071-05	TRIM POT.	10KB AM TUNE LEVEL	DTC114ES								
K1		KTR-0026M1	MAGNETIC RELAY POWER	Q0207, 208	2SA992								
K2		S75-0035-08	PUSH SWITCH	Q0209, 210	2SC1845								
S102		S42-2116-05	KEYBOARD	Q0211, 212	2SC137								
S902-918		*	TAUT SWITCH	Q0213, 214	2SC316								
S920-926		*	KEYBOARD	Q0215, 216	2SA916								
SW01		S31-3010-08	SLIDE SWITCH	Q0217, 218	2SC1468								
SW1		S60-0040-08	VOLTAGE SELECT	Q0219, 210	2SA1695								
SW2		S62-0032-08	LOUDNESS SEL	Q0221, 222	2SC1845								
SW801		S62-0012-08	IMPEDANCE SEL	Q0223, 224	2SC1740S								
D1		ISS131	SLIDE SWITCH	Q0801	KTC1940								
D12		D100E	DIODE	Q0803	2SC1740S								
D2-5		1N4002A	DIODE	Q0804	2SC1845F								
D30		DB860C	DIODE	Q0808, 809	2SA333S								
D6-9		ISS131	DIODE	Q0811, 812	2SC1740S								
D101-112		ISS131	DIODE	Q9901	2SA933S								
D107-110		ISS131	DIODE	Q9902	2SC1740S								
D14-15		1N002A	DIODE	Q9903	DTA143TS								
D20-205		ISS131	DIODE	Q9912	MT23.9B								
D25-26		ISS131	DIODE	Q9913	MT25.1B								
D31-36		1N002A	DIODE	Q9914	MT26.2B								
D37-38		ISS131	DIODE	Q9915	RD156S(B2)								
D80-802		ISS131	DIODE	Q9916	MT212B								
D810		RD1.1ES(B2)	DIODE	Q9917	MTZ16.2B								
D811, 812		ISS133	DIODE	Q9918	W02-1111-08								
D905-904		ISS133	DIODE	Q9919	W02-2504-08								
D905		MT2J6.9B	DIODE	Q9920	ELECTRIC CIRCUIT MODULE								
D908		ISS133	DIODE	Q9921	FM FRONT END UNIT								
D908-918		ISS133	DIODE	Q9922									
D920		ISS133	DIODE	Q9923									
D921		ISS133	DIODE	Q9924									
FLT001		5-17-167GK	FLUORESCENT INDICATOR TUBE	KPR									
IC1		KIA78012AP	IC(+12V AVR)</										

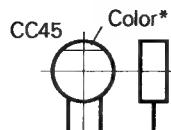
# KR-A4060

## PARTS LIST

### CAPACITORS

CC 45 TH 1H .220 J  
 1 2 3 4 5 6

1 = Type ... ceramic, electrolytic, etc. 4 = Voltage rating  
 2 = Shape ... round, square, ect. 5 = Value  
 3 = Temp. coefficient 6 = Tolerance



#### • Capacitor value

010 = 1pF  
 100 = 10pF  
 101 = 100pF  
 102 = 1000pF = 0.001μF  
 103 = 0.01μF

2 2 0 = 22pF  
 Multiplier  
 2nd number  
 1st number

#### • Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470 ± 60ppm/°C

#### • Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40	+80	+100	More than 10μF - 10 ~ +50
							-20	-20	-0	Less than 4.7μF - 10 ~ +75

#### (Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

#### • Voltage rating

2nd word	A	B	C	D	E	F	G	H	J	K	V
1st word											
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	-
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	-
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	-

#### • Chip capacitors

(EX) C C 7 3 F S L 1 H 0 0 0 J  
 1 2 3 4 5 6 7

Refer to the table above.

(Chip) (CH, RH, UJ, SL)

(EX) C K 7 3 F F 1 H 0 0 0 Z  
 1 2 3 4 5 6 7

(Chip) (B, F)

1 = Type  
 2 = Shape  
 3 = Dimension  
 4 = Temp. coefficient  
 5 = Voltage rating  
 6 = Value  
 7 = Tolerance

#### Dimension (Chip capacitors)

Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

## RESISTORS

#### • Chip resistor (Carbon)

(EX) R K 7 3 E B 2 B 0 0 0 J  
 1 2 3 4 5 6 7

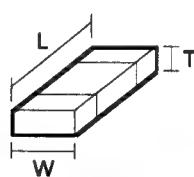
(Chip) (B, F)

#### • Carbon resistor (Normal type)

(EX) R D 1 4 B B 2 C 0 0 0 J  
 1 2 3 4 5 6 7

1 = Type  
 2 = Shape  
 3 = Dimension  
 4 = Temp. coefficient  
 5 = Rating wattage  
 6 = Value  
 7 = Tolerance

#### Dimension



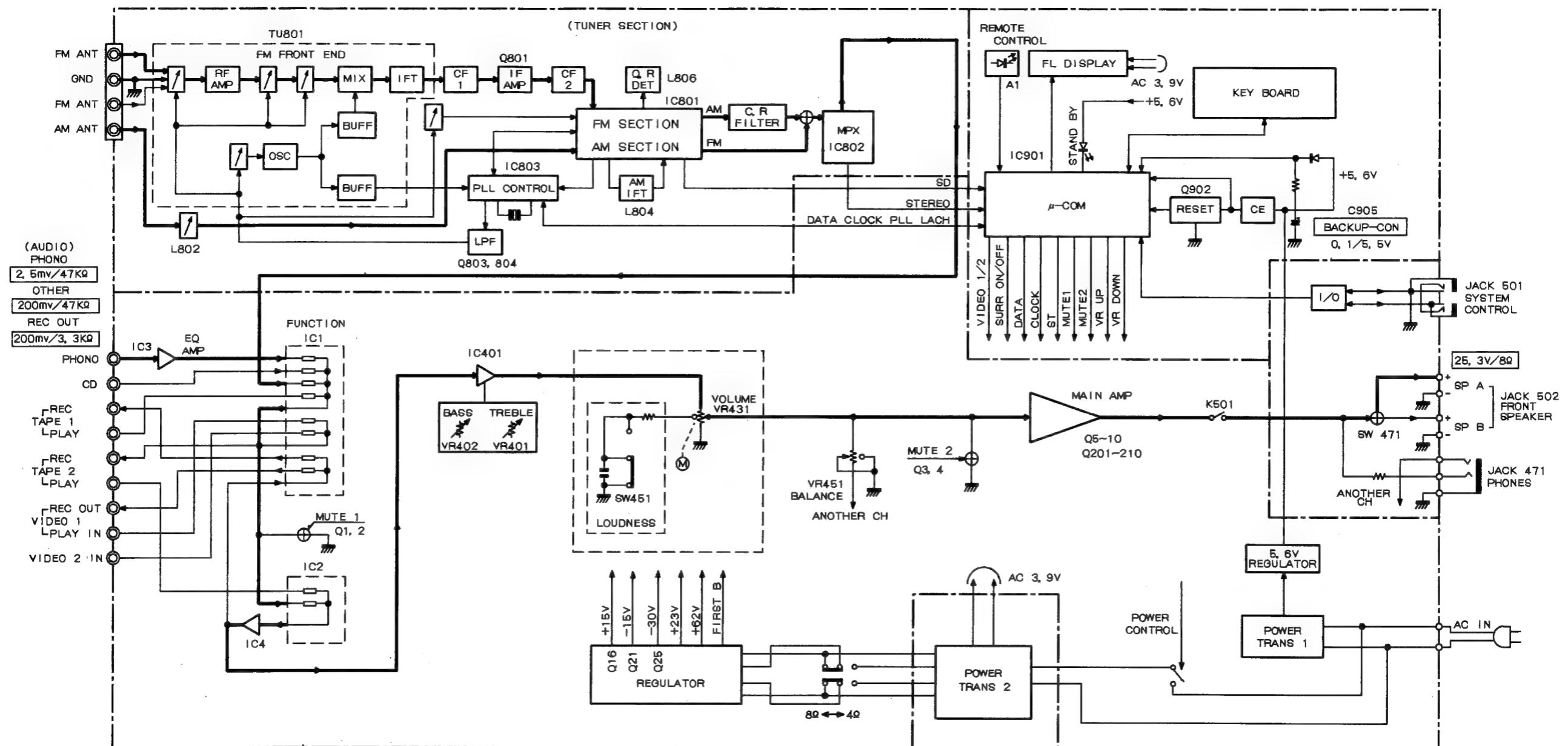
#### Dimension (Chip resistor)

Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6 ± 0.2	0.8 ± 0.2	0.5 ± 0.1

#### Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

# KR-A5060 KR-A5060 BLOCK DIAGRAM



EXCEPT E

# KR-A5060

## ADJUSTMENT

**AM section : If alignment point is "-", confirm the value. If not, replace the front end pack.**

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
<b>FM SECTION</b> <b>SELECTOR : FM</b>							
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, $\pm 75$ kHz dev. 60dB $\mu$ (ANT. input)	Connect a DC voltmeter between TP803 and TP804. (TUNER UNIT)	AUTO or MONO 98.0MHz	L806 (TUNER UNIT)	0V.	(a)
2	VCO	(A) 98.0MHz 0 dev. 60dB $\mu$ (ANT. input)	Connect a frequency counter between TP805 and TP806. (TUNER UNIT)	AUTO 98.0MHz	L802 (TUNER UNIT)	19.00kHz	(b)
3	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, $\pm 68.25$ kHz dev. Selector : L or R Pilot : $\pm 6.75$ kHz dev. 60dB $\mu$ (ANT. input)	(B)	98.0MHz	IFT (W02-)	Minimum distortion. (L or R)	
4	TUNING LEVEL	(A) 98.0MHz 0 dev. 18dB $\mu$ (ANT. input)	(B)	AUTO or MONO 98.0MHz	VR801 (TUNER UNIT)	Adjust VR801 and stop at the point where FLT901 (TUNED) goes on.	
<b>AM SECTION</b> <b>SELECTOR : AM</b>							
(1)	TUNING LEVEL	(D) 1000 (999) kHz 26dB $\mu$ (ANT. input)	(B)	-	VR804 (TUNER UNIT)	Adjust VR804 and stop at the point where FLT901 (TUNED) goes on.	
<b>AUDIO SECTION</b>							
<1>	IDLE CURRENT	-	Connect a DC voltmeter across CP1 (L), CP2 (R) (MAIN UNIT)	Volume : 0	VR1 (L) VR2 (R) (AUDIO UNIT)	10mV	(d)

# KR-A5060

## AJUSTES

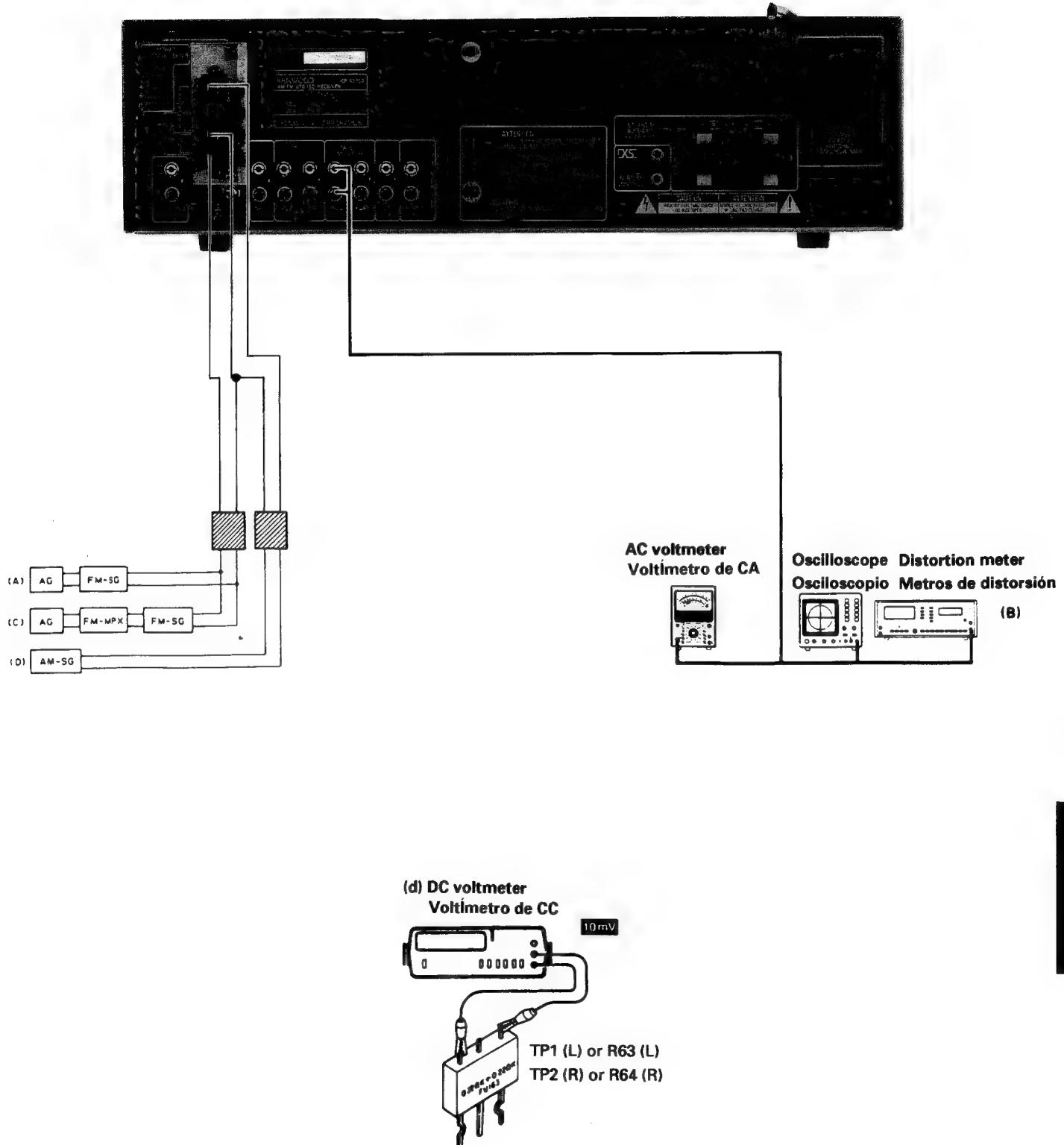
**Sección de AM : Si el punto de alineación es "-", confirme el valor. Si no, reemplace el paquete de entrada.**

Núm.	ÍTEM	AJUSTES DE ENTRADA	AJUSTES DE SALIDA	AJUSTES DEL SINTONIZADOR	PUNTOS DE ALINEACIÓN	ALINEACIÓN PARA	FIG.
<b>SECCIÓN DE FM</b> <b>SELECTOR : FM</b>							
1	DISCRIMINADOR	(A) 98.0MHz 1kHz, $\pm 75$ kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un voltímetro de CC entre TP803 y TP804. (UNIDAD DEL SINTONIZADOR)	AUTO o MONO 98.0MHz	L806 (UNIDAD DEL SINTONIZADOR)	0V.	(a)
2	VCO	(A) 98.0MHz 0 dev. 60dB $\mu$ (Entrada de antena)	Conecte un Frecuencímetro entre TP805 y TP806. (UNIDAD DEL SINTONIZADOR)	AUTO 98.0MHz	L802 (UNIDAD DEL SINTONIZADOR)	19.00kHz	(b)
3	DISTORSIÓN (ESTÉREO)	(C) 98.0MHz 1kHz, $\pm 68.25$ kHz dev. Selector : L or R Pilot : $\pm 6.75$ kHz dev. 60dB $\mu$ (Entrada de antena)	(B)	98.0MHz	IFT (W02-)	Distorsión mínima. (L o R)	
4	NIVEL DE SINTONÍA	(A) 98.0MHz 0 dev. 18dB $\mu$ (Entrada de antena)	(B)	AUTO o MONO 98.0MHz	VR801 (UNIDAD DEL SINTONIZADOR)	Ajuste VR801 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AM</b> <b>SELECTOR : AM</b>							
(1)	NIVEL DE SINTONÍA	(D) 1000 (999) kHz 26dB $\mu$ (Entrada de antena)	(B)	-	VR804 (UNIDAD DEL SINTONIZADOR)	Ajuste VR804 y pare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AUDIO</b>							
<1>	CORRIENTE EN REPOSO	-	Conecte un voltímetro de CC entre TP1 (L) y TP2 (R) (UNIDAD PRINCIPAL)	Volumen : 0	VR1 (L) VR2 (R) (UNIDAD AUDIO)	10mV	(d)

EXCEPT E.T

## ADJUSTMENT/AJUSTES

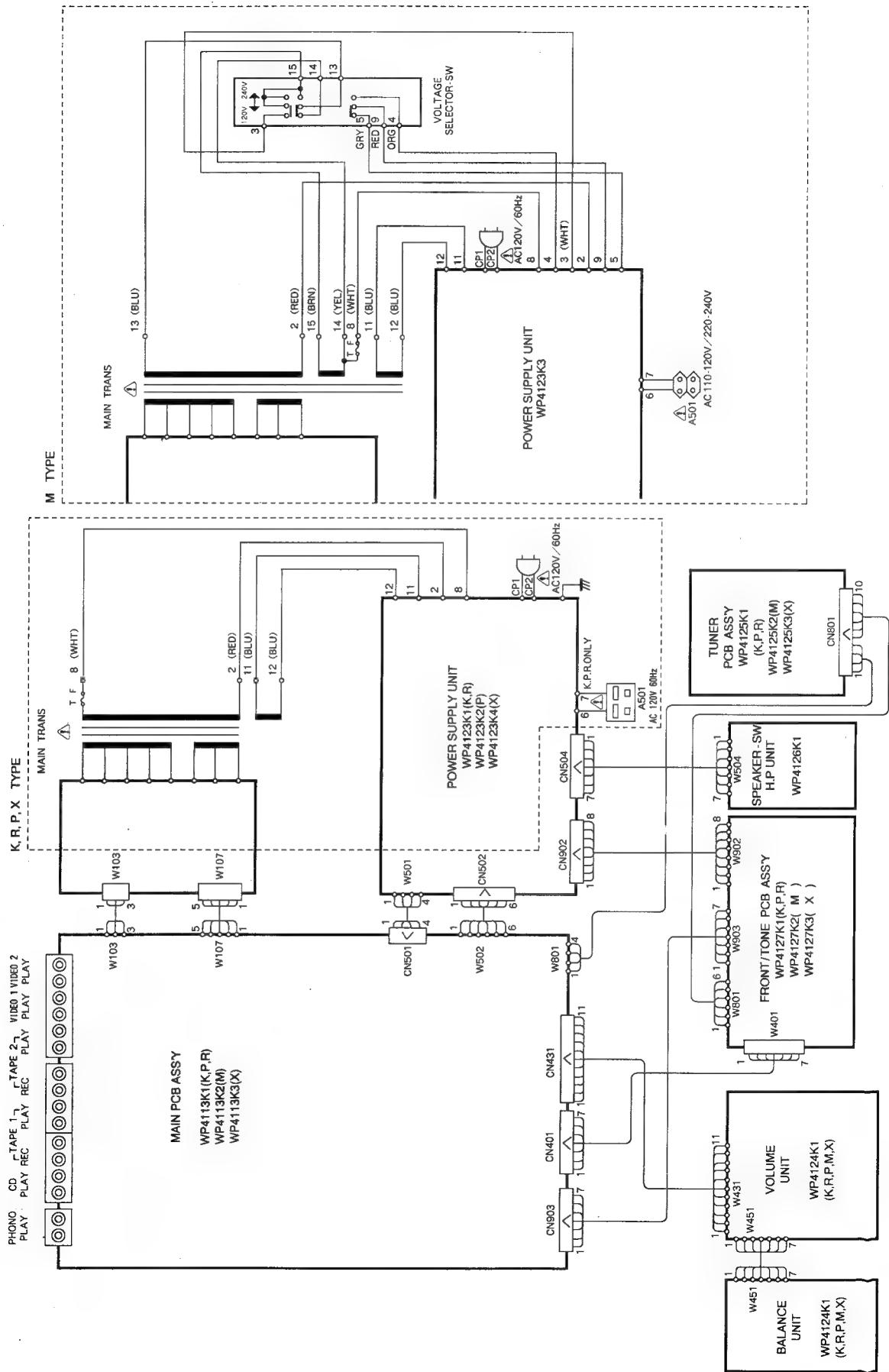
### SYSTEM CONNECTIONS/CONEXIONES DEL SISTEMA



**KR-A5060**

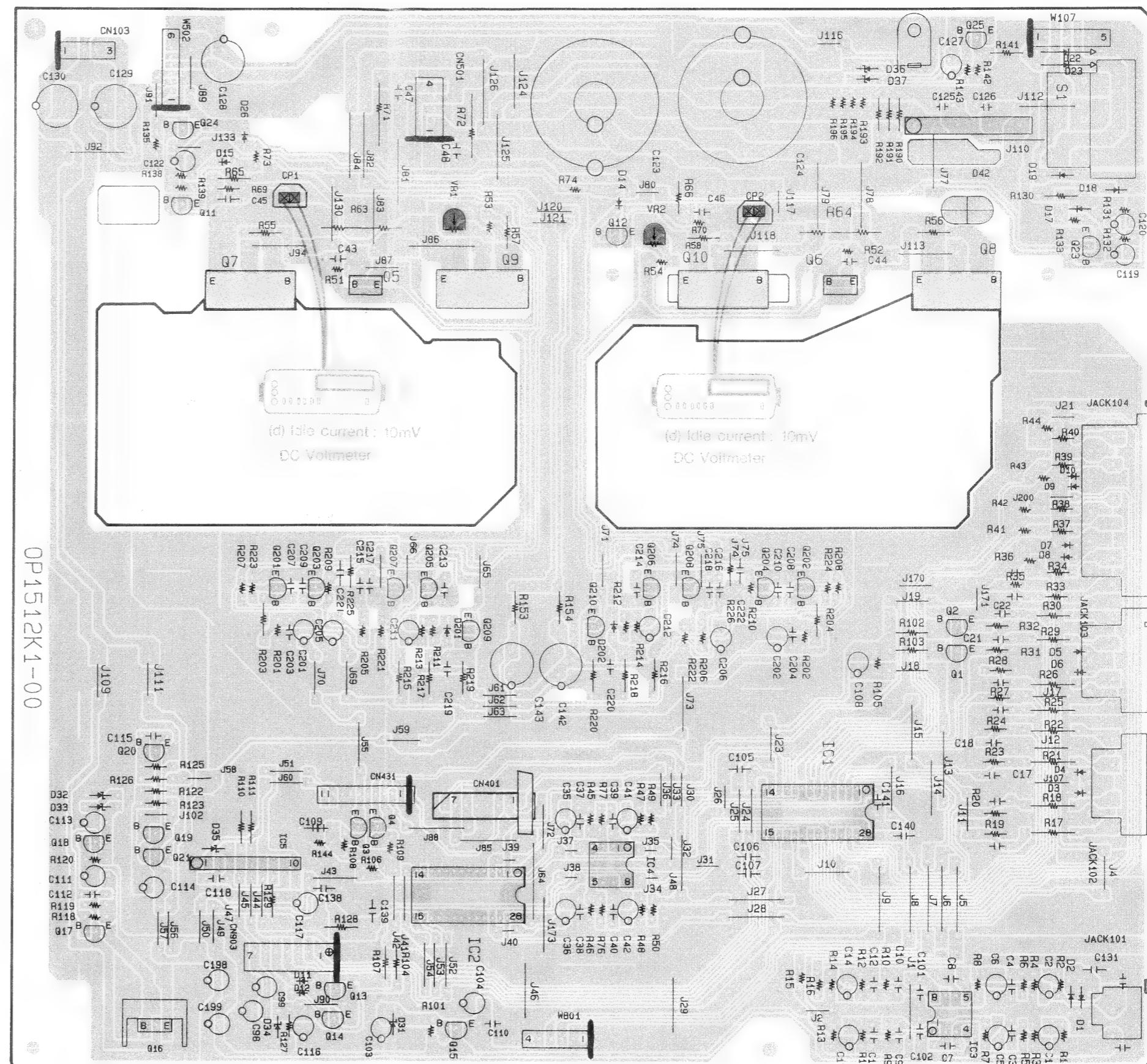
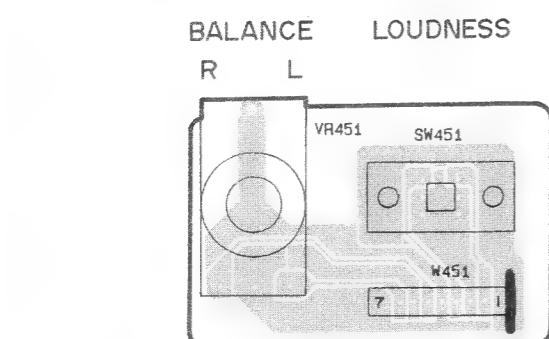
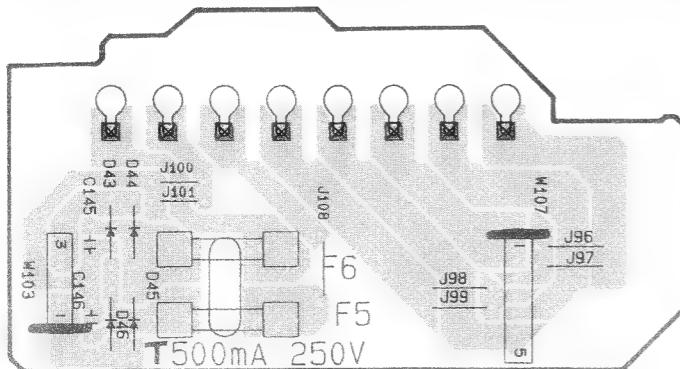
## WIRING DIAGRAM

## EXCEPT ETC.





**PC BOARD (COMPONENT SIDE VIEW) : KR-A5060**



TAPE 2 (MONITOR)	VIDEO 1 PLAY	VIDEO 2 PLAY	A or B : LESS THAN 8Ω A and B : 8Ω	IMPEDANCE SELECTOR
REC	PLAY IN	PLAY IN R	OR MORE	► 8Ω OR MORE OR MORE

## EXCEPT ET

L R PHONO INPUT

A

B

C

D

E

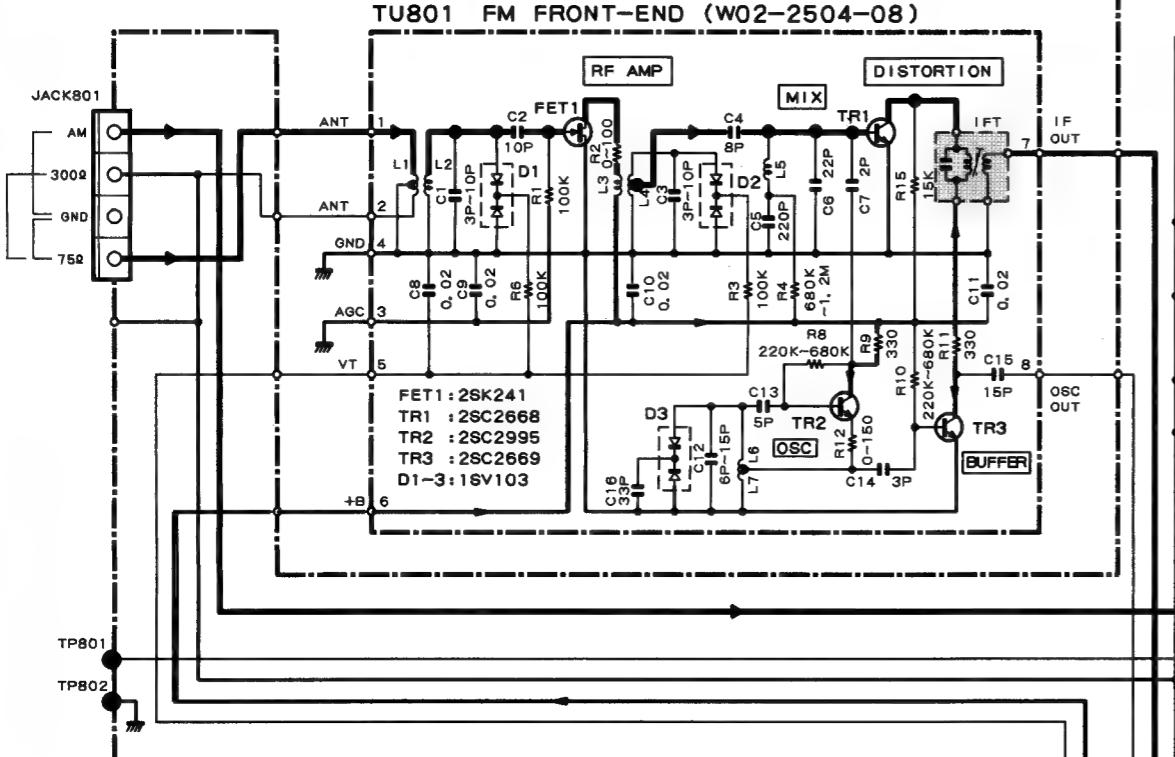
F

G

H

I

J



## TUNER PCB ASS 'Y

IC801 : LA1265      D801, 802 : 1SS133  
 IC802 : AN7470      811, 812 : 811, 812  
 IC803 : LM7001      D810 : RDS, 1ES(B2)  
  
 Q801 : KTC31940  
 Q803 : 2SC1740S  
 811, 812 : 2SC1845F  
 Q804 : 2SA933S  
 Q808, 809 : 2SA933S

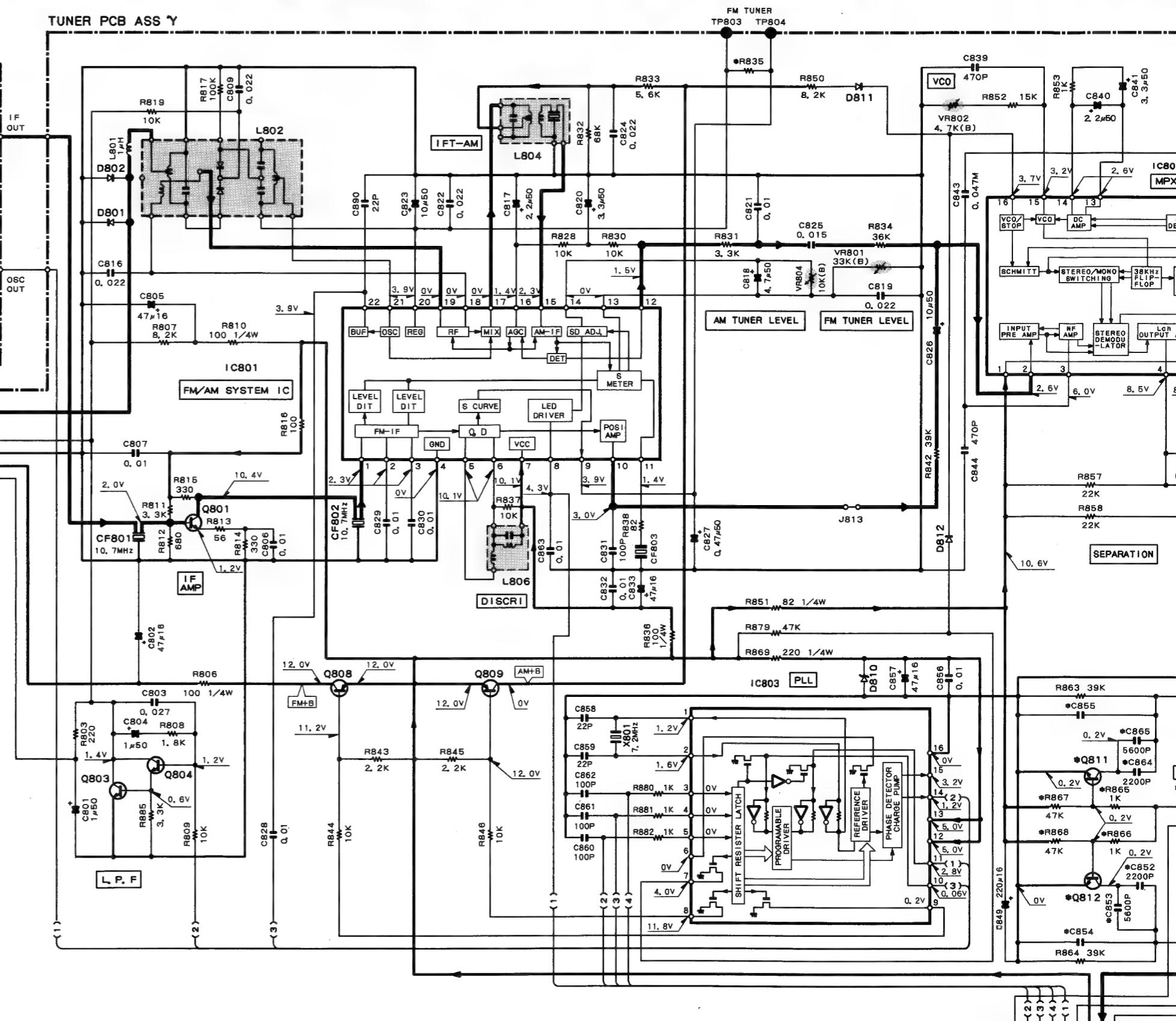
ABB	Q811 812	R835	R865-868	C852, 853 864, 865	C854, 855	SW801
K, P, R	NO	15K	NO	NO	0.022μF	NO
M	YES	39K	YES	YES	0.015μF	YES
X	NO	39K	NO	NO	0.015μF	NO

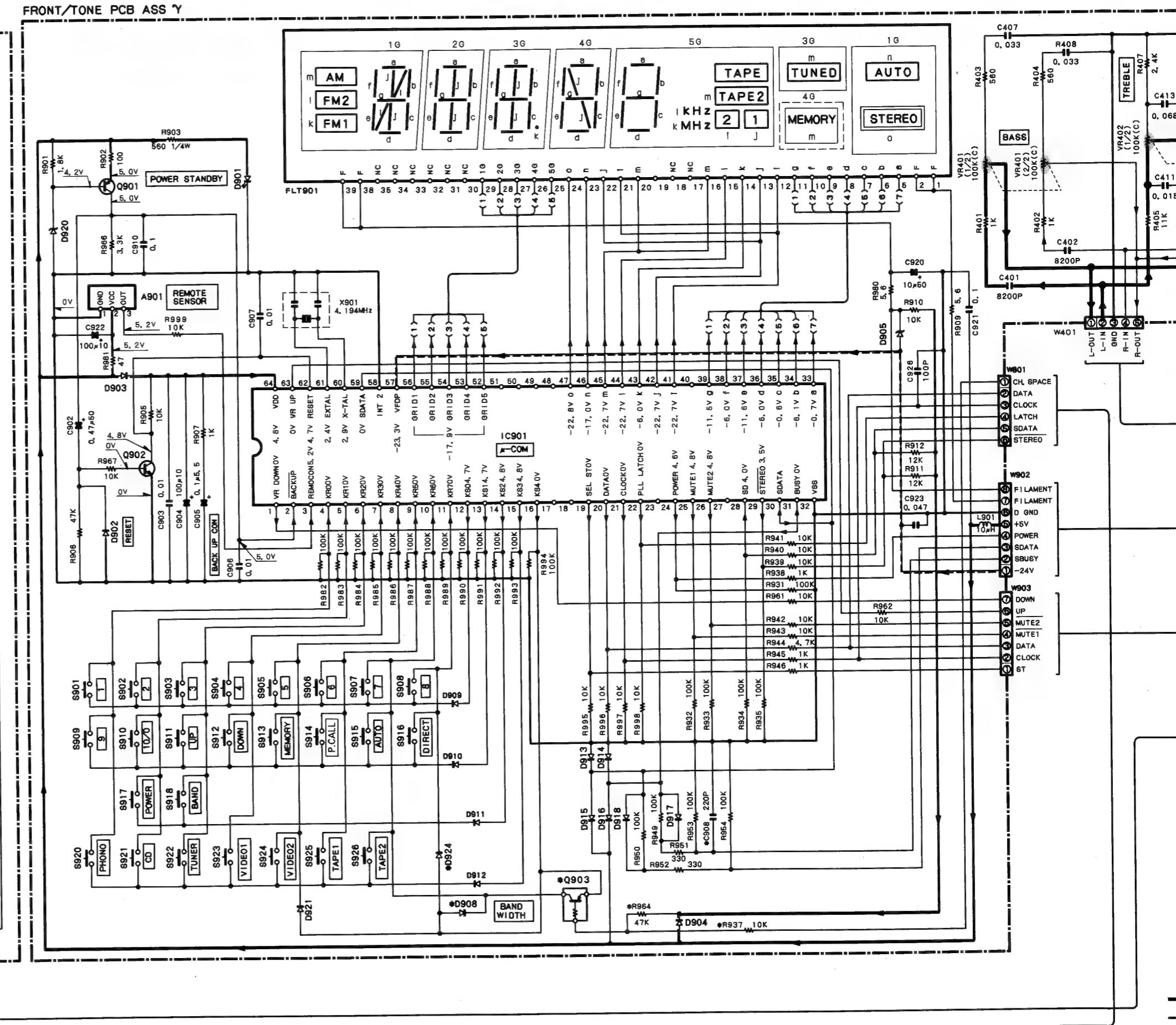
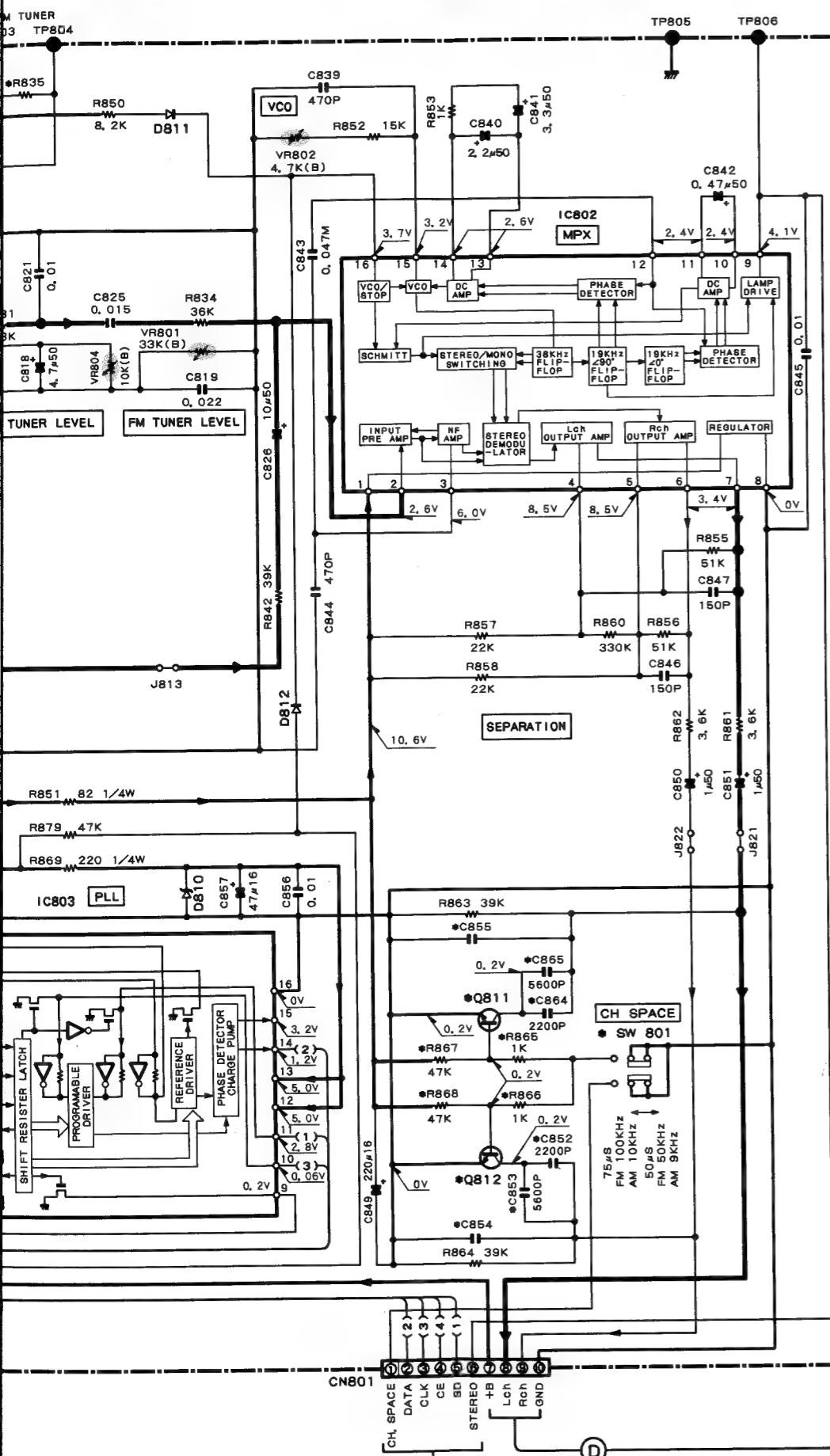
## FRONT/TONE PCB ASS 'Y

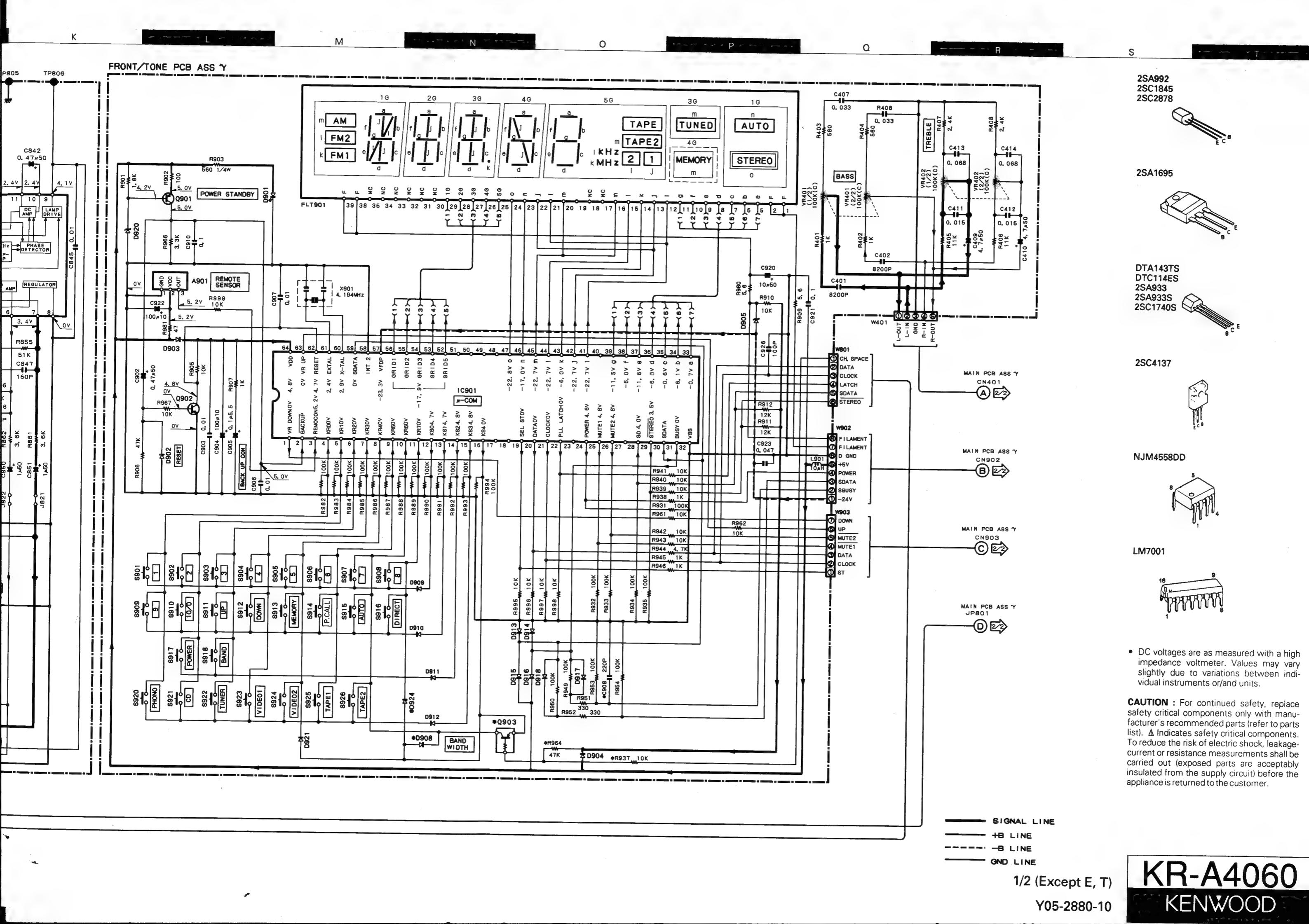
IC901 : CXP5016-531S or  
 CXP5016-526S      D901 : B30-0413-05  
 D902-904, 908-918 : 1SS133  
 921, 924  
 D905 : MTZJ6, 8B  
 D920 : RD4, 7ES(B2)  
  
 Q901 : 2SA933S  
 Q902 : 2SC1740S  
 Q903 : DTA143TS      FLT901 : 5-MT-1670K  
 A901 : W02-1111-08

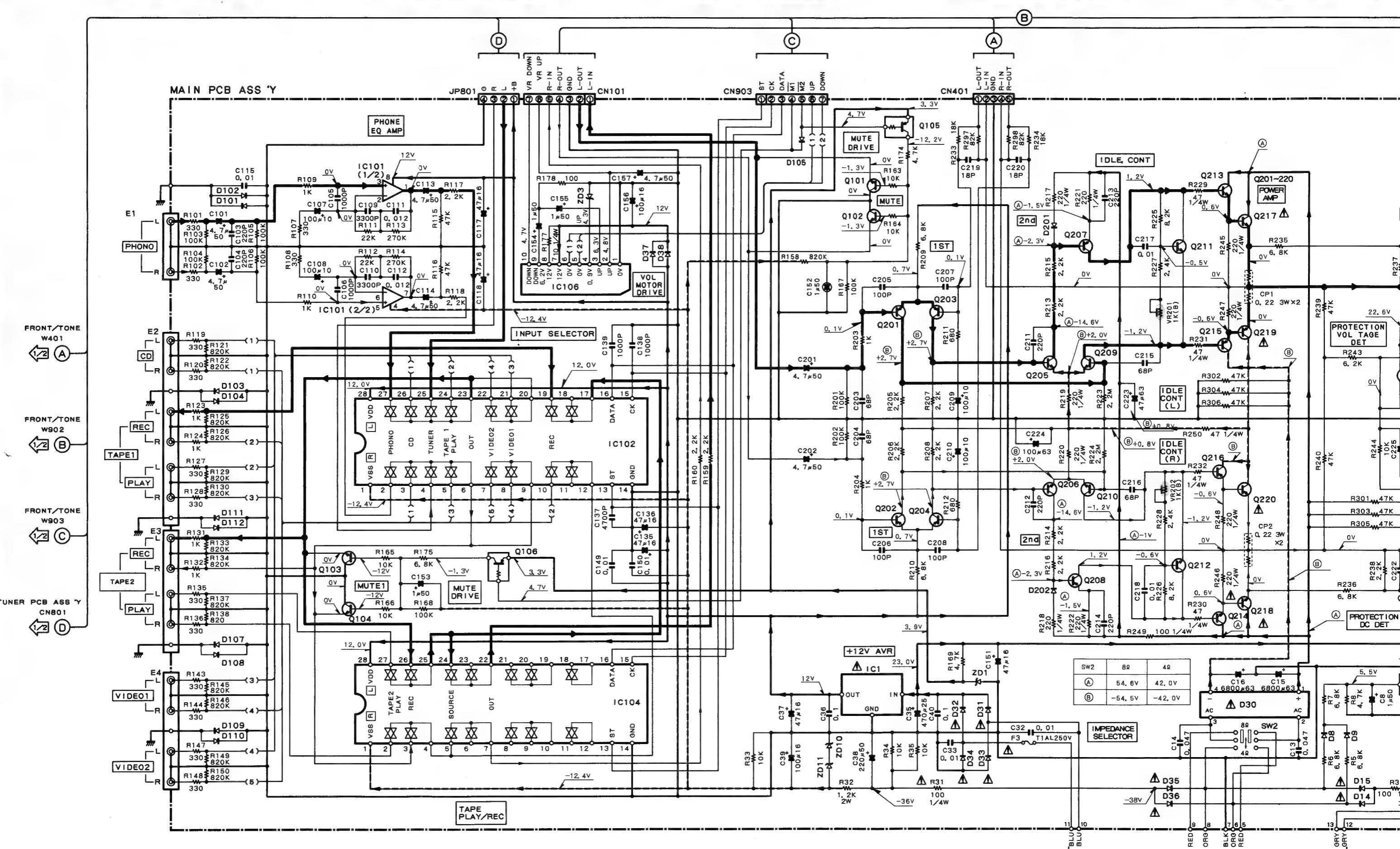
ABB	C908	Q903	D908	D924	R937, 964
K, P, R	YES	NO	NO	YES	NO
M	NO	YES	NO	NO	YES
X	NO	NO	YES	NO	NO

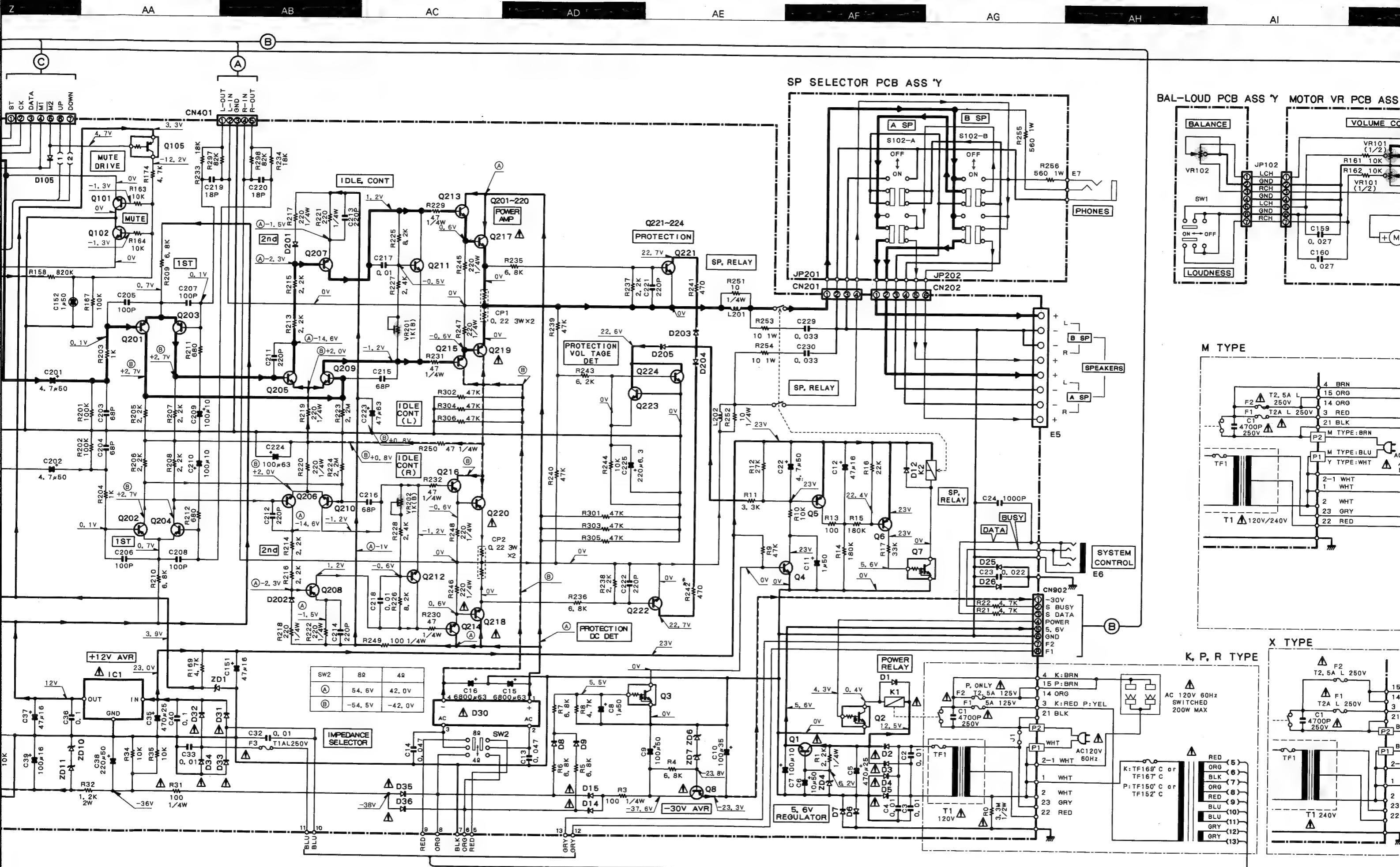
## TUNER PCB ASS 'Y











AE

AF

AG

AH

AI

AJ

AK

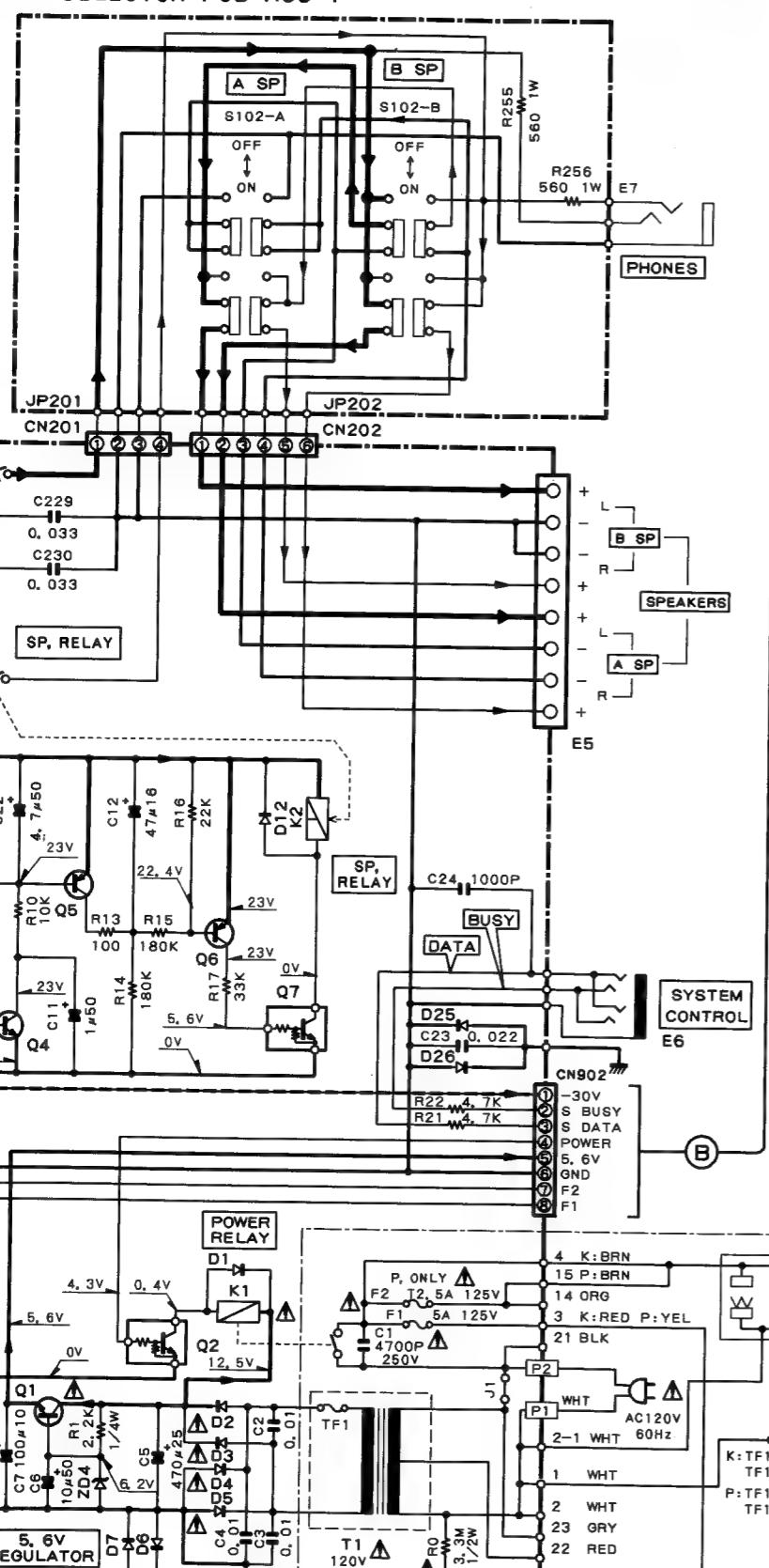
AL

AM

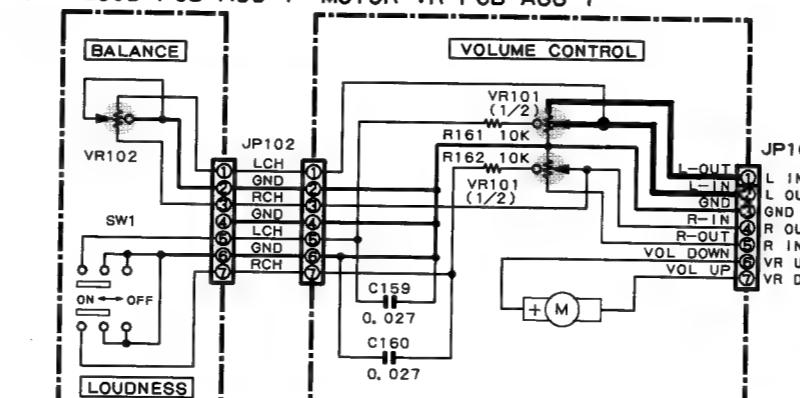
AN

AN7470

## SP SELECTOR PCB ASS 'Y



## BAL-LOUD PCB ASS 'Y' MOTOR VR PCB ASS 'Y'



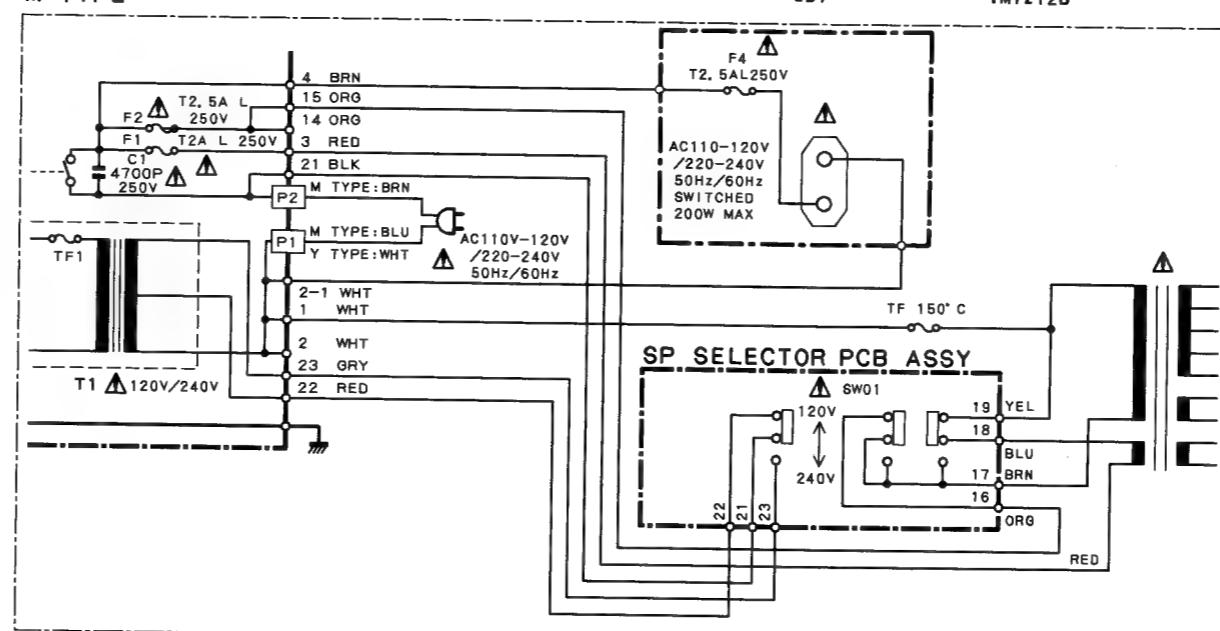
IC1 : KIA78012AP  
 IC101 : NJM4558DD  
 IC102 : NJU7313L or TC9164N  
 IC104 : NJU7311L or TC9162N  
 IC106 : BA6209N

Q1, 213, 214 : 2SC2316  
 Q2, 3, 7 : DTC114ES  
 Q4, 223, 224 : 2SC1740S  
 Q5, 6 : 2SA933  
 Q8, 215, 216 : 2SA916  
 Q101-104 : 2SC2878  
 Q105, 106 : DTA114TS  
 Q201-204, 207, 208 : 2SA992  
 Q205, 206, 209 : 2SC1845  
 210, 221, 222 : 2SC4137  
 Q217, 218 : 2SA4468  
 Q219, 220 : 2SA1695

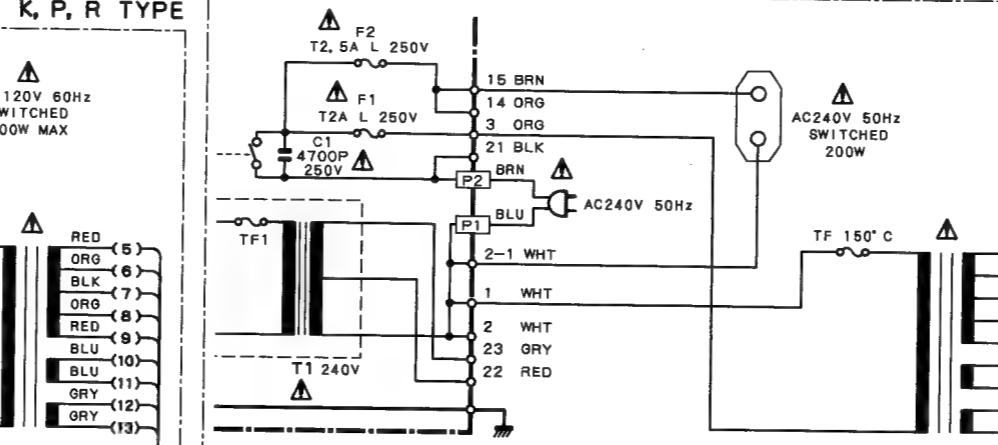
D1, 6-9, 12, 25, 26 : 1SS131  
 37, 38, 101-105  
 107-112, 201-205  
 D2-5, 14, 15, 31-36 : 1N4002A

D30 :  
 ZD1 : MTZJ3, 9B  
 ZD3 : MTZJ5, 1B  
 ZD4, 10, 11 : MTZJ6, 2B  
 ZD6 : RD15EG(B2)  
 ZD7 : MTZ12B

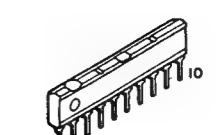
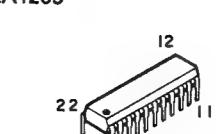
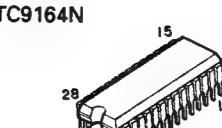
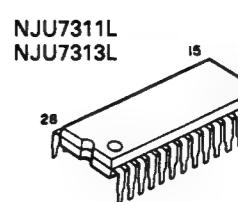
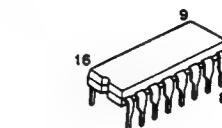
## M TYPE



## X TYPE



— SIGNAL LINE  
 - GND LINE  
 + B LINE  
 - B LINE

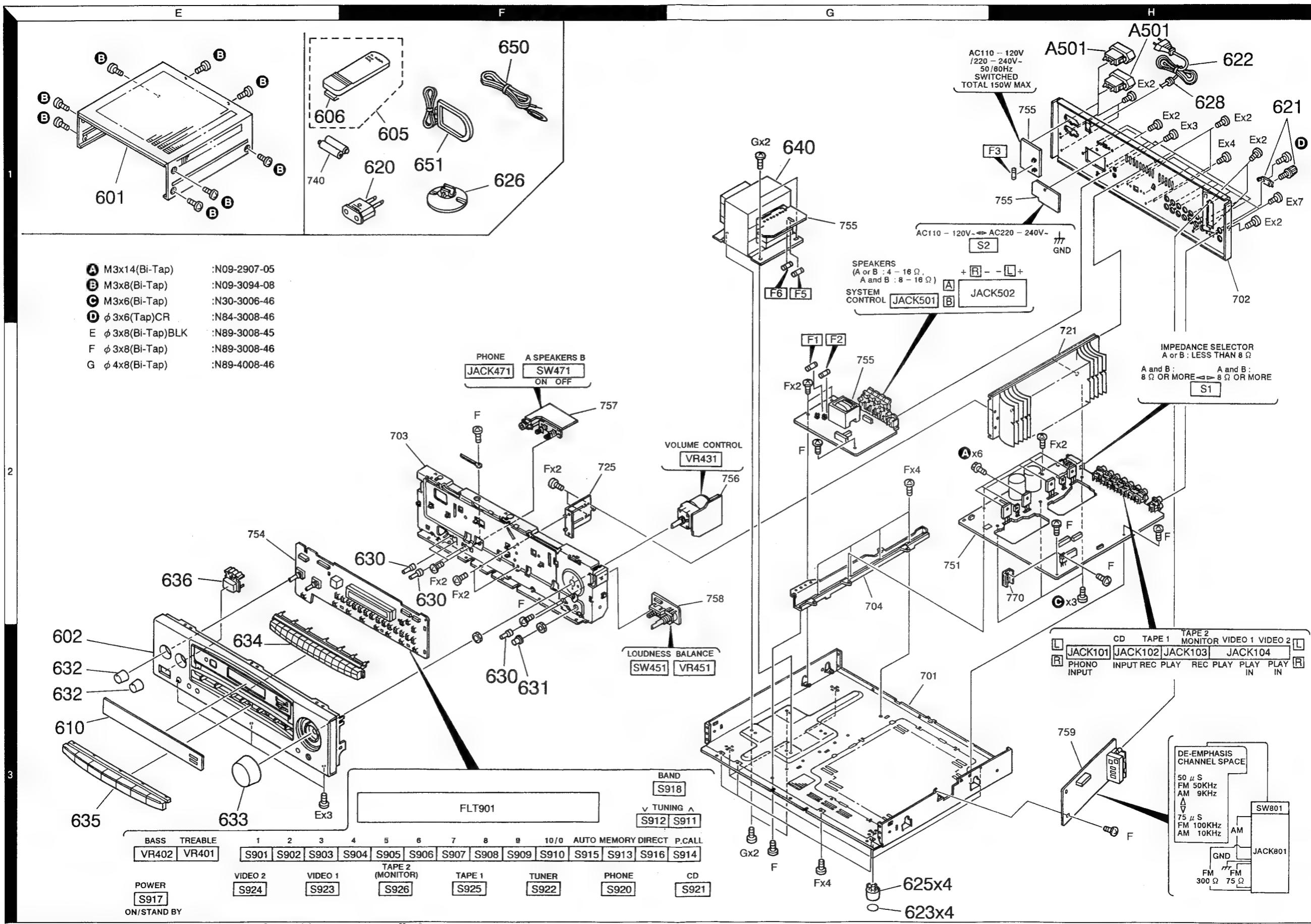


• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

# KR-A5060 KR-A5060

## EXPLODED VIEW (UNIT)



**Parts with the exploded numbers larger than 700 are not supplied.**



## PARTS LIST

6

\* New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

5

\* New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	Parts No.	Description	Parts No.	Description	Parts No.	Description	Desti- nation 向 け	Re- marks 向 け
参照番号	位 置	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格
△ T501		L07-0789-08	TRANS FORMER						
X801		L07-0790-08	TRANS FORMER						
X901		L77-1122-05	CRYSTAL RESONATOR						
		L78-0209-05	4.19MHz RESONATOR						
F	20	N89-3008-46	BINDING HEAD TAPITTE SCREW	X					
R55		RD149B2E220J	FL-PROOF RD 22	J 1/4W					
R63		R90-0187-05	MULTI-COMP RD 22X2	K 5W					
R65		RD149B2E332J	FL-PROOF RD 3.3K	J 1/4W					
R71		RN149K3A10J	RN 10	J 1W					
R115		* RD149B2E010J	FL-PROOF RD 1.0	J 1/4W					
R116		* RN149K3D680J	RN 68	J 2W					
R121		* RD149B2E101J	FL-PROOF RD 1.0	J 1.4W					
R128		RD149B2E101J	FL-PROOF RD 100	J 1.4W					
R129		RD149B2E201J	FL-PROOF RD 10	J 1/W					
R130		RD149B2E201J	FL-PROOF RD 100	J 1/4W					
R141		RD149B2E101J	FL-PROOF RD 100	J 1/4W					
R153		RD149B2E70J	FL-PROOF RD 47	J 1/4W					
R215		RD149B2E51J	FL-PROOF RD 150	J 1/4W					
R216		RD149B2E221J	FL-PROOF RD 220	J 1/4W					
R217		* RN149K3A61J	RN 560	J 1W					
R501		RD149B2E220J	FL-PROOF RD 22	J 1/4W					
R504		RD149B2E335J	RD-PROOF RD 3.3W	J 1/2W					
R819		* RD149B2E101J	FL-PROOF RD 100	J 1.4W					
VR06		RD149B2E101J	FL-PROOF RD 100	J 1.4W					
R910		RD149B2E101J	FL-PROOF RD 100	J 1.4W					
R836		RD149B2E101J	FL-PROOF RD 100	J 1.4W					
R851		RD149B2E820J	FL-PROOF RD 82	J 1/4W					
R869		RD149B2E221J	FL-PROOF RD 220	J 1/4W					
VR1 <sup>1,2</sup>		R12-1066-05	TRIMMING POT. IDLE ADJ	1K					
VR40 <sup>1,2</sup>		R39-0003-08	POTENTIOMETER	BASS/TREBLE 10KB					
VR43 <sup>1</sup>		R39-0001-08	POTENTIOMETER	VOLUME 100KB X3					
VR45 <sup>1</sup>		R10-5071-08	POTENTIOMETER	BALANCE					
VR801		R12-1166-08	TRIM POT.	3.3KB VCO					
VR802		R12-1053-05	TRIM POT.	4.7KB VCO					
VR804		R12-3071-05	TRIM POT.	10KB AM TUNE LEVEL					
△ K501		S551-2092-05	MAGNETIC RELAY POWER						
K502		S76-032-08	SLIDE SWITCH	BALANCE					
S1		S62-032-08	SLIDE SWITCH	IMPEDANCE SEL					
S2		S31-030-05	TACT SWITCH	VOLTAGE SELECT					
S901-926		* S70-030-08	KEY BOARD						
SW45 <sup>1</sup>		S68-0040-08	PUSH SWITCH	LOUDNESS					
SW801		S62-033-08	PUSH SWITCH	SPEAKERS					
D1	-12	* ISS131	SLIDE SWITCH	CH. SPACE					
D14	-15	ISS131	DIODE						
D17	-19	ISS131	DIODE						
D22	-23	1N4002	DIODE						
D26		ISS131	DIODE						
D31		RD13B(S2)	ZENER DIODE						
D32		MTZ16-2B	ZENER DIODE						
D33		MTZ16-2B	ZENER DIODE						
D34		MTZ16-2B	ZENER DIODE						
D35		RDS1ES-(B2)	ZENER DIODE						
D36	,37	MTZ12B(B2)	ZENER DIODE						

EXCEPT E.T

L: Scandinavia K: USA P: Canada M: Mexico  
Y: PX(Far East, Hawaii) T: England E: Europe G: Germany  
Y: AAFFES (Europe) X: Australia M: Other Areas  
Y: AAFFES (Europe) T: England E: Europe G: Germany  
Y: AAFFES (Europe) X: Australia M: Other Areas

△ indicates safety critical components.

Ref. No.	Address	Parts No.	Description	Parts No.	Description	Parts No.	Description	Desti- nation 向 け	Re- marks 向 け
参照番号	位 置	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格
△ T501		L07-0789-08	TRANS FORMER						
X801		L07-0790-08	TRANS FORMER						
X901		L77-1122-05	CRYSTAL RESONATOR						
		L78-0209-05	4.19MHz RESONATOR						
F	20	N89-3008-46	BINDING HEAD TAPITTE SCREW	X					
R55		RD149B2E220J	FL-PROOF RD 22	J 1/4W					
R63		R90-0187-05	MULTI-COMP RD 22X2	K 5W					
R65		RD149B2E332J	FL-PROOF RD 3.3K	J 1W					
R71		RN149K3A10J	RN 10	J 1W					
R115		* RD149B2E010J	FL-PROOF RD 1.0	J 1/4W					
R116		* RN149K3D680J	RN 68	J 2W					
R121		* RD149B2E101J	FL-PROOF RD 1.0	J 1.4W					
R128		RD149B2E101J	FL-PROOF RD 100	J 1.4W					
R129		RD149B2E201J	FL-PROOF RD 10	J 1/W					
R130		RD149B2E201J	FL-PROOF RD 100	J 1/4W					
R141		RD149B2E101J	FL-PROOF RD 100	J 1/4W					
R153		RD149B2E70J	FL-PROOF RD 47	J 1/4W					
R215		RD149B2E51J	FL-PROOF RD 150	J 1/4W					
R216		RD149B2E221J	FL-PROOF RD 220	J 1/4W					
R217		* RN149K3A61J	RN 560	J 1W					
R501		RD149B2E220J	FL-PROOF RD 22	J 1/4W					
R504		RD149B2E335J	RD-PROOF RD 3.3W	J 1/2W					
R819		* RD149B2E101J	FL-PROOF RD 100	J 1.4W					
VR06		RD149B2E101J	FL-PROOF RD 100	J 1.4W					
R910		RD149B2E101J	FL-PROOF RD 100	J 1.4W					
R836		RD149B2E101J	FL-PROOF RD 100	J 1.4W					
R851		RD149B2E820J	FL-PROOF RD 82	J 1/4W					
R869		RD149B2E221J	FL-PROOF RD 220	J 1/4W					
VR1 <sup>1,2</sup>		R12-1066-05	TRIMMING POT.	IDLE ADJ	1K				
VR40 <sup>1,2</sup>		R39-0003-08	POTENTIOMETER	BASS/TREBLE 10KB					
VR43 <sup>1</sup>		R39-0001-08	POTENTIOMETER	VOLUME 100KB X3					
VR45 <sup>1</sup>		R10-5071-08	POTENTIOMETER	BALANCE					
VR801		R12-1166-08	TRIM POT.	3.3KB VCO					
VR802		R12-1053-05	TRIM POT.	4.7KB VCO					
VR804		R12-3071-05	TRIM POT.	10KB AM TUNE LEVEL					
△ K501		S551-2092-05	MAGNETIC RELAY POWER						
K502		S76-032-08	SLIDE SWITCH	BALANCE					
S1		S62-032-08	SLIDE SWITCH	IMPEDANCE SEL					
S2		S31-030-05	TACT SWITCH	VOLTAGE SELECT					
S901-926		* S70-030-08	KEY BOARD						
SW45 <sup>1</sup>		S68-0040-08	PUSH SWITCH	LOUDNESS					
SW801		S62-033-08	PUSH SWITCH	SPEAKERS					
D1	-12	* ISS131	SLIDE SWITCH	CH. SPACE					
D14	-15	ISS131	DIODE						
D17	-19	ISS131	DIODE						
D22	-23	1N4002	DIODE						
D26		ISS131	DIODE						
D31		RD13B(S2)	ZENER DIODE						
D32		MTZ16-2B	ZENER DIODE						
D33		MTZ16-2B	ZENER DIODE						
D34		MTZ16-2B	ZENER DIODE						
D35		MTZ16-2B	ZENER DIODE						
D36	,37	MTZ12B(B2)	ZENER DIODE						

Ref. No.	Address	Parts No.	Description	Parts No.	Description	Parts No.	Description	Desti- nation 向 け	Re- marks 向 け
参照番号	位 置	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格
△ T501		L07-0789-08	TRANS FORMER						
X801		L07-0790-08	TRANS FORMER						
X901		L77-1122-05	CRYSTAL RESONATOR						
		L78-0209-05	4.19MHz RESONATOR						
F	20	N89-3008-46	BINDING HEAD TAPITTE SCREW	X					
R55		RD149B2E220J	FL-PROOF RD 22	J 1/4W					
R63		R90-0187-05	MULTI-COMP RD 22X2	K 5W					
R65		RD149B2E332J	FL-PROOF RD 3.3K	J 1W					
R71		RN149K3A10J	RN 10	J 1W					
R115		* RD149B2E010J	FL-PROOF RD 1.0	J 1/4W					
R116		* RN149K3D680J	RN 68	J 2W					
R121		* RD149B2E101J	FL-PROOF RD 1.0	J 1.4W					
R128		RD149B2E101J	FL-PROOF RD 100	J 1.4W					
R129		RD149B2E201J	FL-PROOF RD 10	J 1/W					
R130		RD149B2E201J	FL-PROOF RD 100	J 1/4W					
R141		RD149B2E101J	FL-PROOF RD 100	J 1/4W					
R153		RD149B2E70J	FL-PROOF RD 47	J 1/4W					
R215		RD149							

## PARTS LIST

## EXCEPT E,T

\* New Parts  
 Parts without Parts No. are not supplied.  
 Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
 Teile ohne Parts No. werden nicht geliefert.

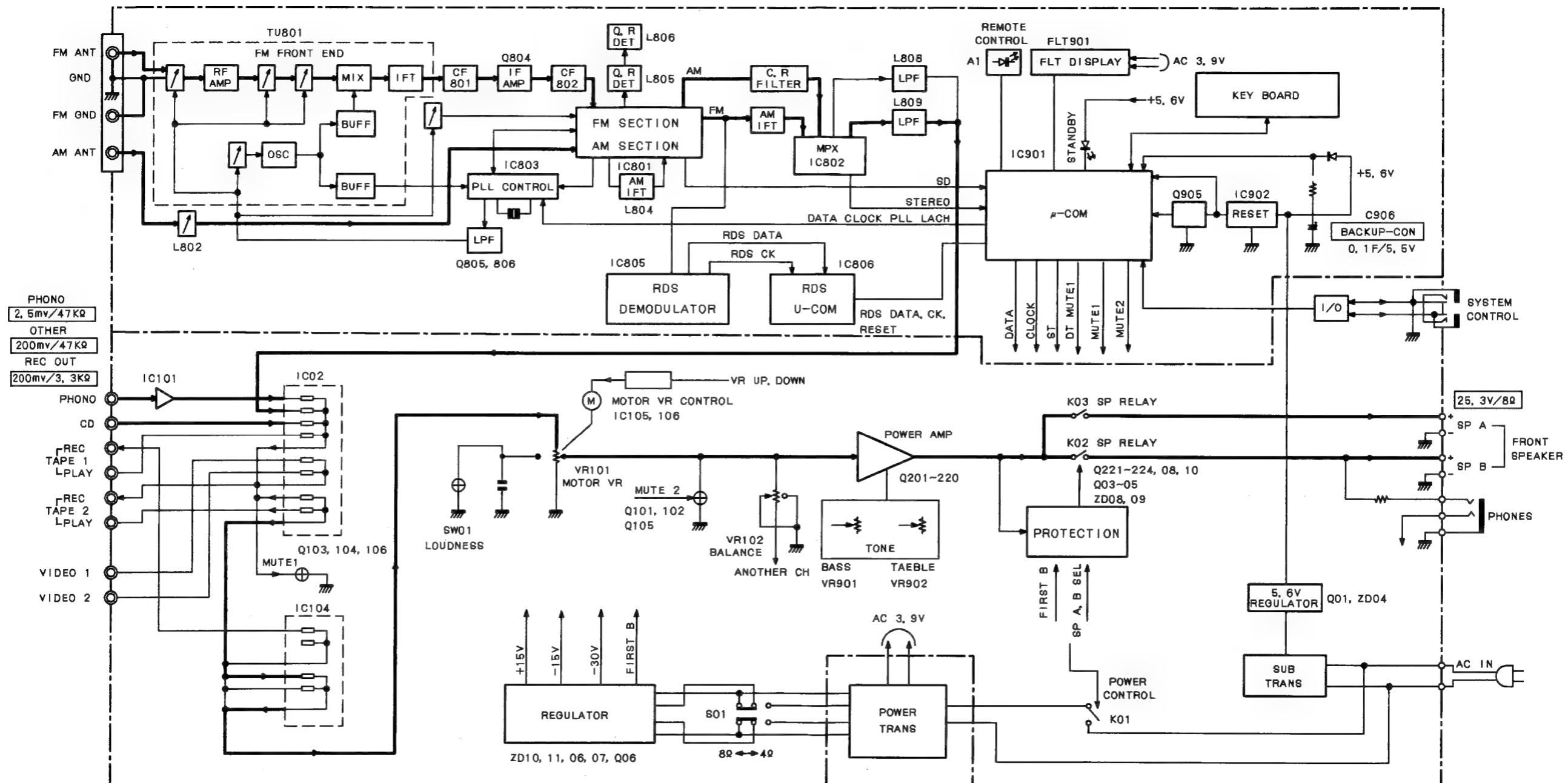
7

Ref. No.	Address	Parts No.	Description	Desti- nation mark 仕 向 番 号
Q811-812		2SC1740S	TRANSISTOR	
Q901		2SA933S	TRANSISTOR	H
Q902		2SC1740S	TRANSISTOR	H
Q903		DTA143TS	DIGITAL TRANSISTOR	
A901		W02-1111-08	ELECTRIC CIRCUIT MODULE	
TU801		W02-1042-05	FM FRONT END UNIT	KPNXR

L: Scandinavia   K: USA   P: Canada   R: Mexico  
 Y: PX (Far East Hawaii) T: England   E: Europe   G: Germany  
 V: AAES (Europe)   X: Australia   M: Other Areas

△ indicates safety critical components.

# KR-A4060/A5060 KR-A4060/A5060 BLOCK DIAGRAM



# KR-A4060/A5060

## ADJUSTMENT

**AM section : If alignment point is "-", confirm the value. If not, replace the front end pack.**

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
<b>FM SECTION</b>							
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, $\pm 40$ kHz dev. 60dB $\mu$ (ANT. input)	Connect a DC voltmeter between TP801 and TP802. (TUNER UNIT)	AUTO or MONO 98.0MHz	L805 (TUNER UNIT)	0V.	(a)
2	DISCRIMINATOR	(C) 98.0MHz 1kHz, $\pm 40$ kHz dev. 60dB $\mu$ (ANT. input)	Connect a Distortion meter (1kHz)	AUTO or MONO 98.0MHz	L806 (TUNER UNIT)	Minimum distortion. (L or R)	
3	DISCRIMINATOR	(C) 98.0MHz 1kHz, $\pm 40$ kHz dev. 60dB $\mu$ (ANT. input)	Connect a DC voltmeter between TP801 and TP802. (TUNER UNIT)	AUTO or MONO 98.0MHz	L806 (TUNER UNIT)	0V.	(a)
4	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, $\pm 40$ kHz dev. Selector : L or R Pilot : $\pm 6.0$ kHz dev. 60dB $\mu$ (ANT. input)	(B)	98.0MHz	IFT (Front end pack)	Minimum distortion. (L or R)	
5	SEPARATION	(C) 98.0MHz 1kHz, $\pm 40$ kHz dev. Selector : L or R Pilot : $\pm 6.0$ kHz dev. 60dB $\mu$ (ANT. input)	(B)	AUTO 98.0MHz	VR803 (TUNER UNIT)	Minimum cross talk.	
6	TUNING LEVEL	(A) 98.0MHz 0 dev. 17dB $\mu$ (ANT. input)	(B)	AUTO or MONO 98.0MHz	VR802 (TUNER UNIT)	Adjust VR802 and stop at the point where FLT901 (TUNED) goes on.	
<b>AM SECTION</b>							
(1)	TUNING LEVEL	(D) 999MHz 26dB $\mu$ (ANT. input)	(B)	—	VR801 (TUNER UNIT)	Adjust VR801 and stop at the point where FLT901 (TUNED) goes on.	
<b>AUDIO SECTION</b>							
<1>	IDLE CURRENT	—	Connect a DC voltmeter across CP1 (L), CP2 (R) (MAIN UNIT)	Volume : 0	VR201 (L) VR202 (R) (AUDIO UNIT)	10mV	

# KR-A4060/A5060

## AJUSTES

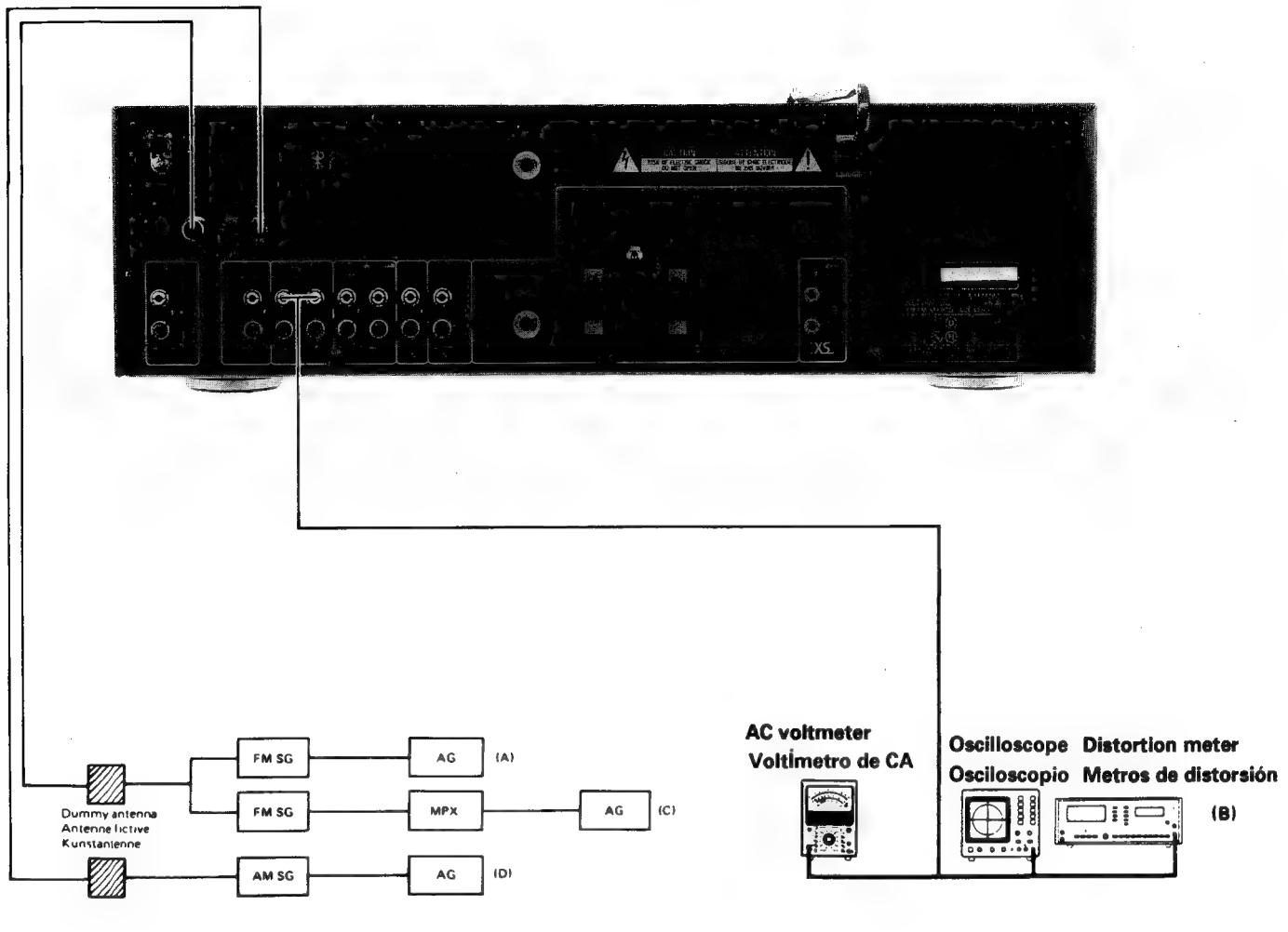
**Sección de AM : Si el punto de alineación es "-", confirme el valor. Si no, reemplace el paquete de entrada.**

Núm.	ÍTEM	AJUSTES DE ENTRADA	AJUSTES DE SALIDA	AJUSTES DEL SINTONIZADOR	PUNTOS DE ALINEACIÓN	ALINEACIÓN PARA	FIG.
<b>SECCIÓN DE FM</b>							
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, $\pm 40$ kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un voltímetro de CC entre TP801 y TP802. (UNIDAD DEL SINTONIZADOR)	AUTO o MONO 98.0MHz	L805 (UNIDAD DEL SINTONIZADOR)	0V.	(a)
2	DISCRIMINATOR	(C) 98.0MHz 1kHz, $\pm 40$ kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un medidor de Distorsión. (1kHz)	AUTO o MONO 98.0MHz	L806 (UNIDAD DEL SINTONIZADOR)	Distortión mínima. (L o R)	
3	DISCRIMINATOR	(C) 98.0MHz 1kHz, $\pm 40$ kHz dev. 60dB $\mu$ (Entrada de antena)	Conecte un voltímetro de CC entre TP801 y TP802. (UNIDAD DEL SINTONIZADOR)	AUTO o MONO 98.0MHz	L806 (UNIDAD DEL SINTONIZADOR)	0V.	(a)
4	DISTORSIÓN (ESTÉREO)	(C) 98.0MHz 1kHz, $\pm 40$ kHz dev. Selector : L o R Piloto : $\pm 6.0$ kHz dev. 60dB $\mu$ (Entrada de antena)	(B)	98.0MHz	IFT (Paquete de entrada)	Distortión mínima. (L o R)	
5	SEPARACIÓN	(C) 98.0MHz 1kHz, $\pm 40$ kHz dev. Selector : L o R Piloto : $\pm 6.0$ kHz dev. 60dB $\mu$ (Entrada de antena)	(B)	AUTO 98.0MHz	VR803 (UNIDAD DEL SINTONIZADOR)	Diáfonía mínima.	(b)
6	NIVEL DE SINTONÍA	(A) 98.0MHz 0 dev. 17dB $\mu$ (Entrada de antena)	(B)	AUTO o MONO 98.0MHz	VR802 (UNIDAD DEL SINTONIZADOR)	Ajuste VR802 ypare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AM</b>							
(1)	NIVEL DE SINTONÍA	(D) 999MHz 26dB $\mu$ (Entrada de antena)	(B)	—	VR801 (UNIDAD DEL SINTONIZADOR)	Ajuste VR801 ypare en el punto en el que se encienda FLT 901 (SINTONIZADO).	
<b>SECCIÓN DE AUDIO</b>							
<1>	CORRIENTE EN REPOSO	—	Conecte un voltímetro de CC entre CP1 (L) y CP2 (R) (UNIDAD PRINCIPAL)	Volumen : 0	VR201 (L) VR202 (R) (UNIDAD AUDIO)	10mV	

# KR-A4060/A5060

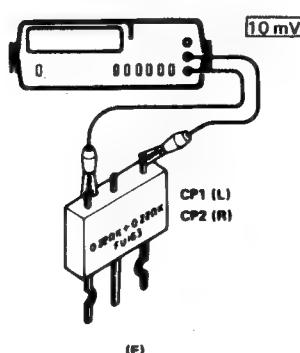
## ADJUSTMENT/AJUSTES

### SYSTEM CONNECTIONS/CONEXIONES DEL SISTEMA



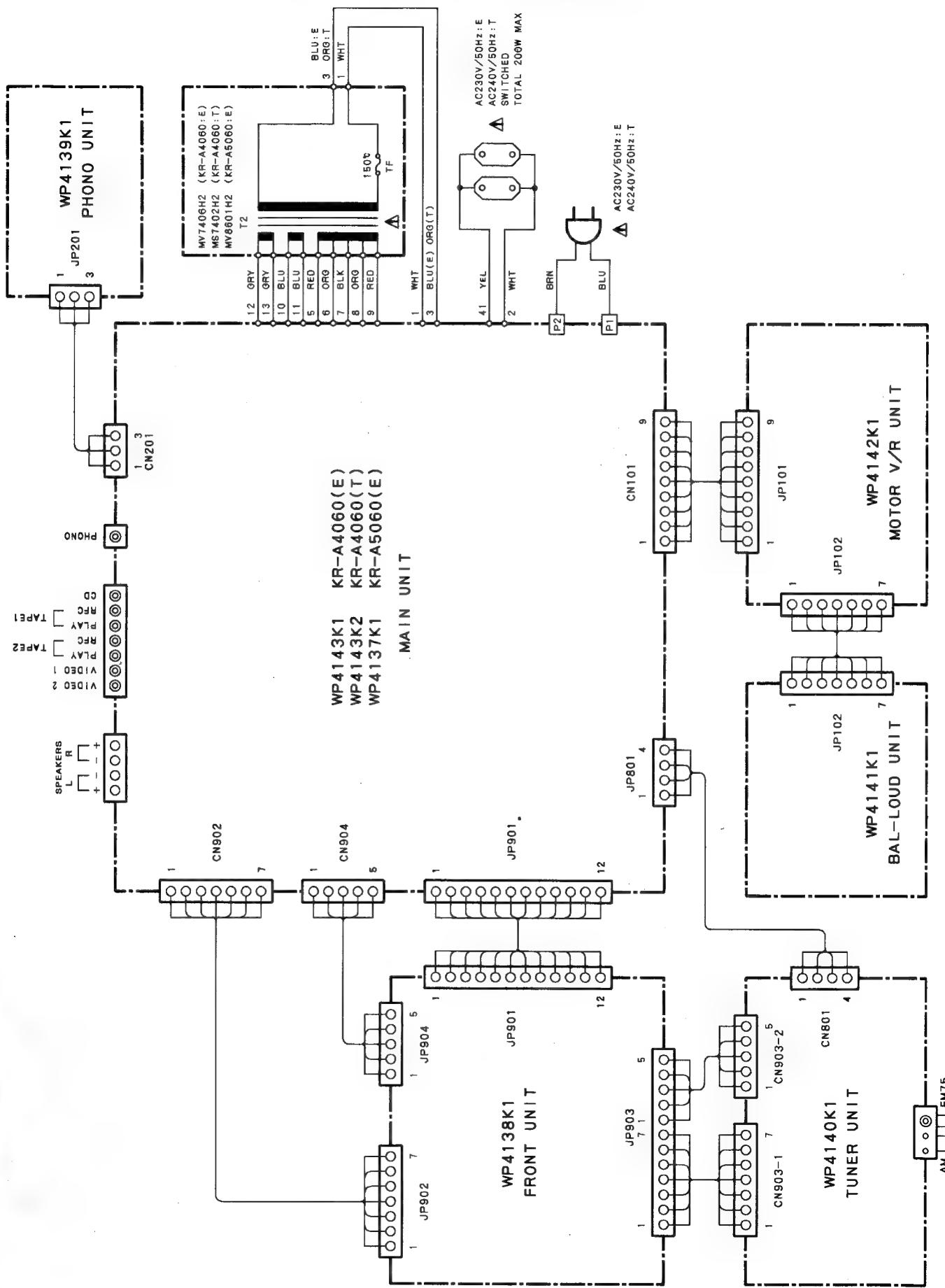
### System connections/Raccordements du système/System-Anschlüsse

#### (E) DC voltmeter Voltímetro de CC

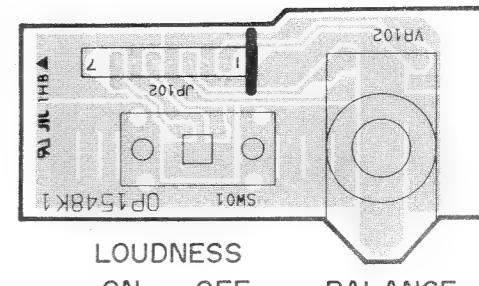
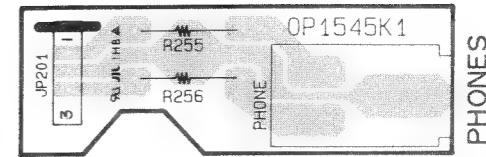
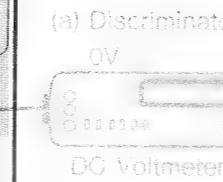
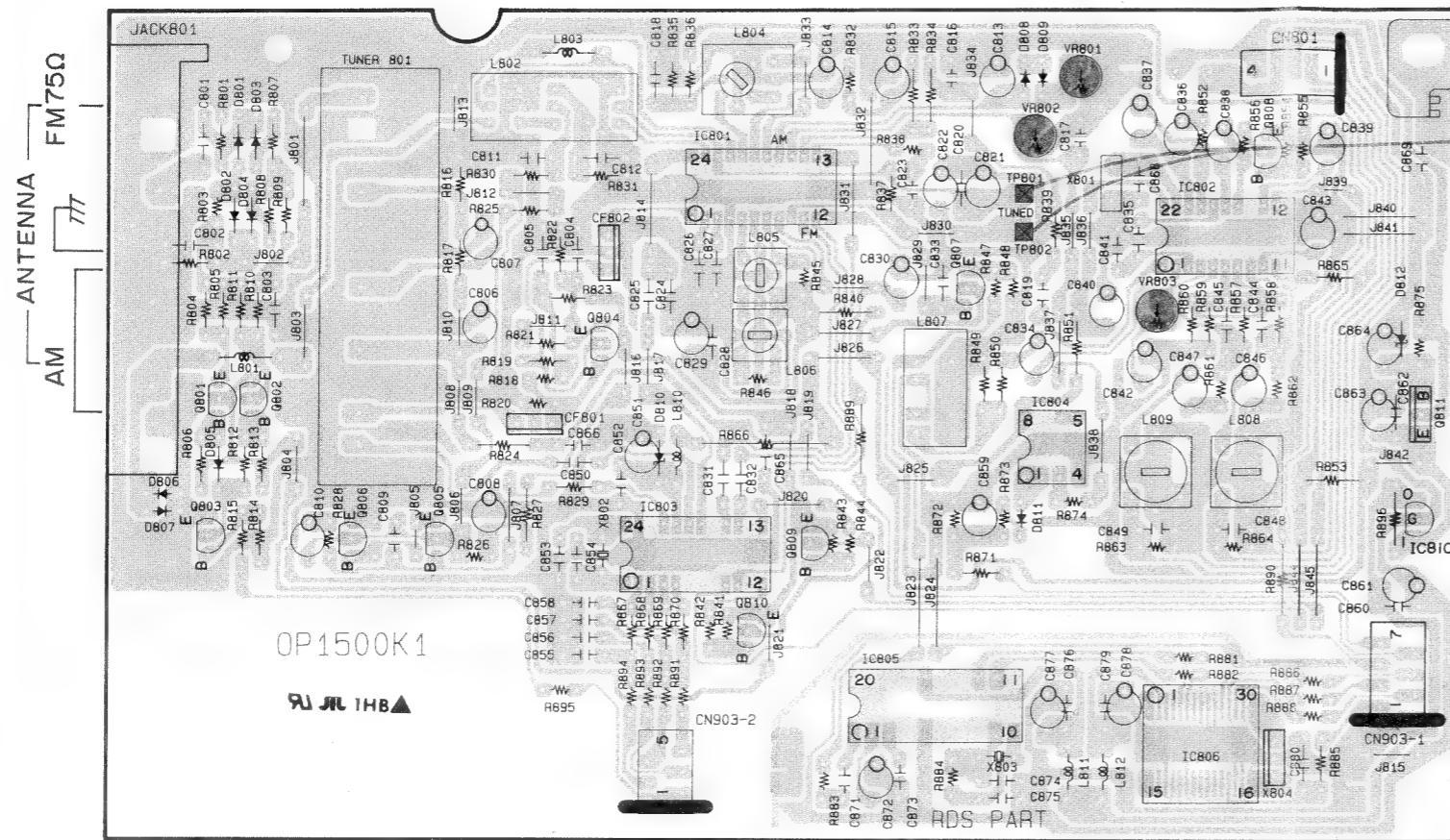


# KR-A4060/A5060

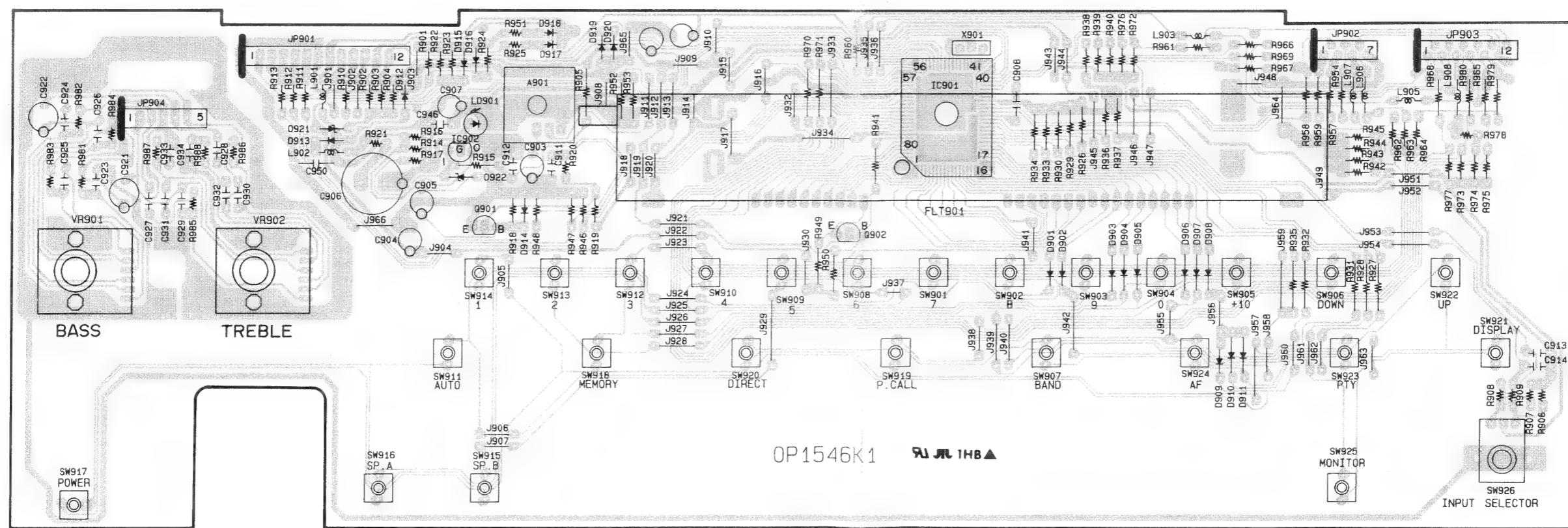
## WIRING DIAGRAM



**PC BOARD (COMPONENT SIDE VIEW) : KR-A4060/A5060**



## VOLUME CONTROL

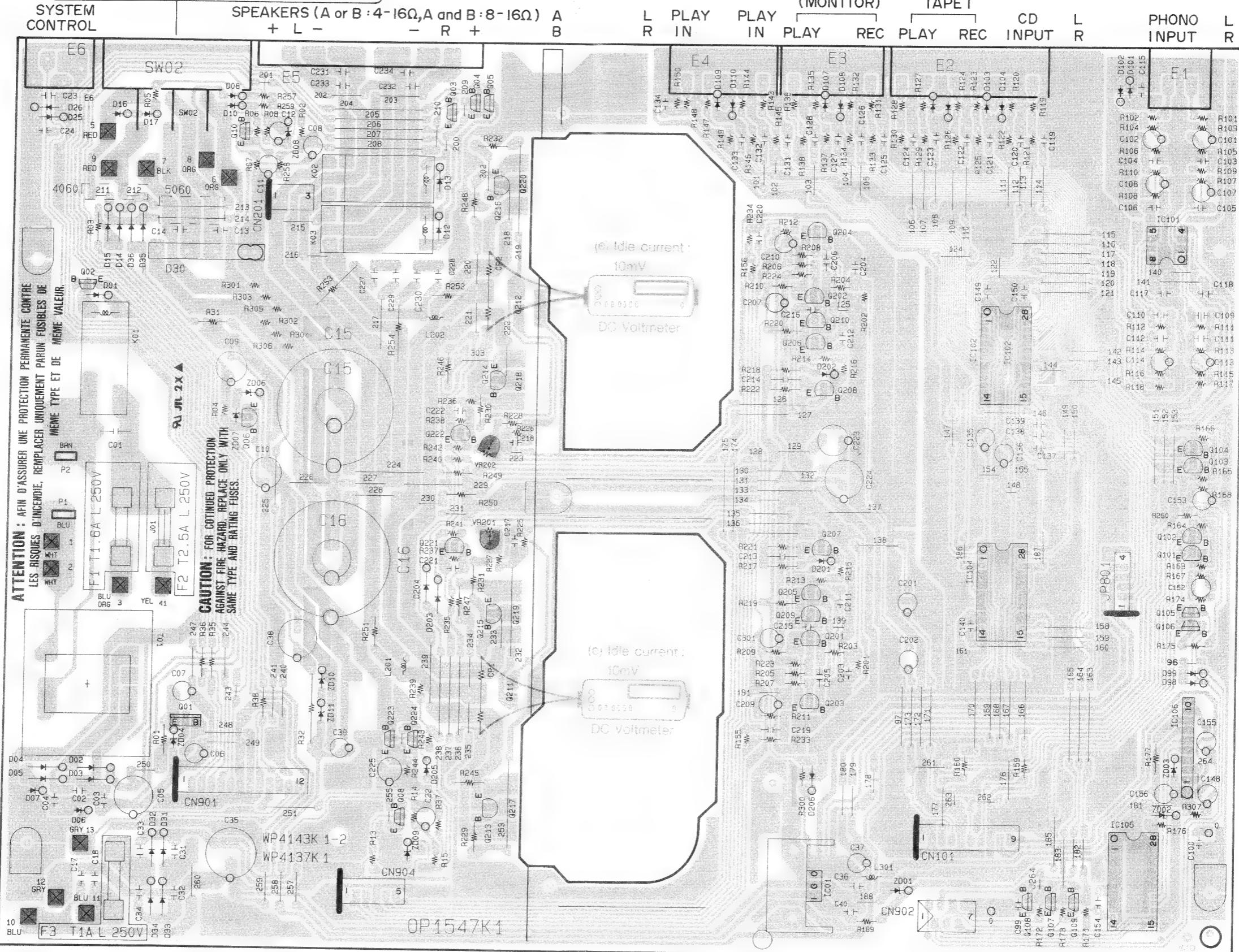


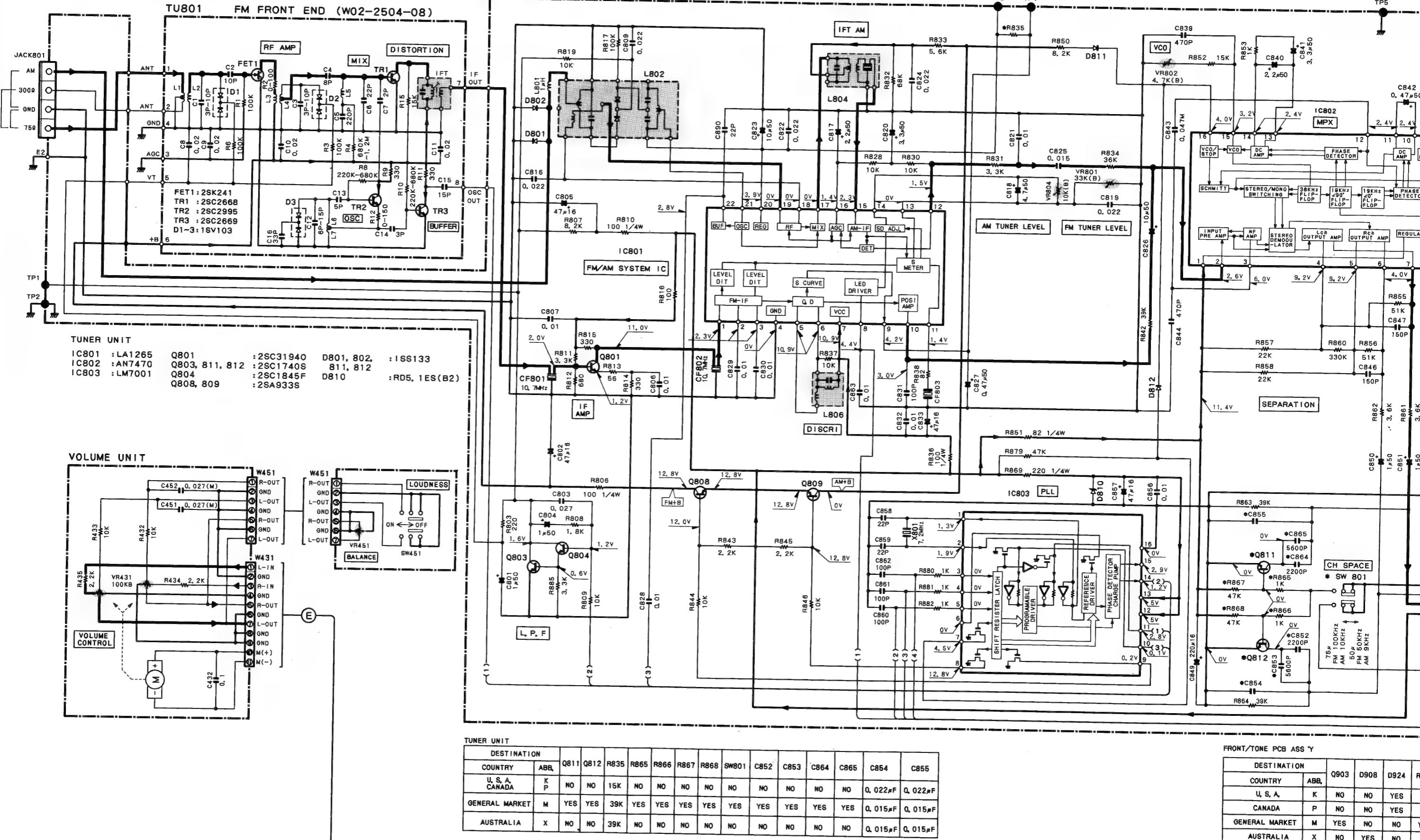
Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (COMPONENT SIDE VIEW) : KR-A4060/A5060

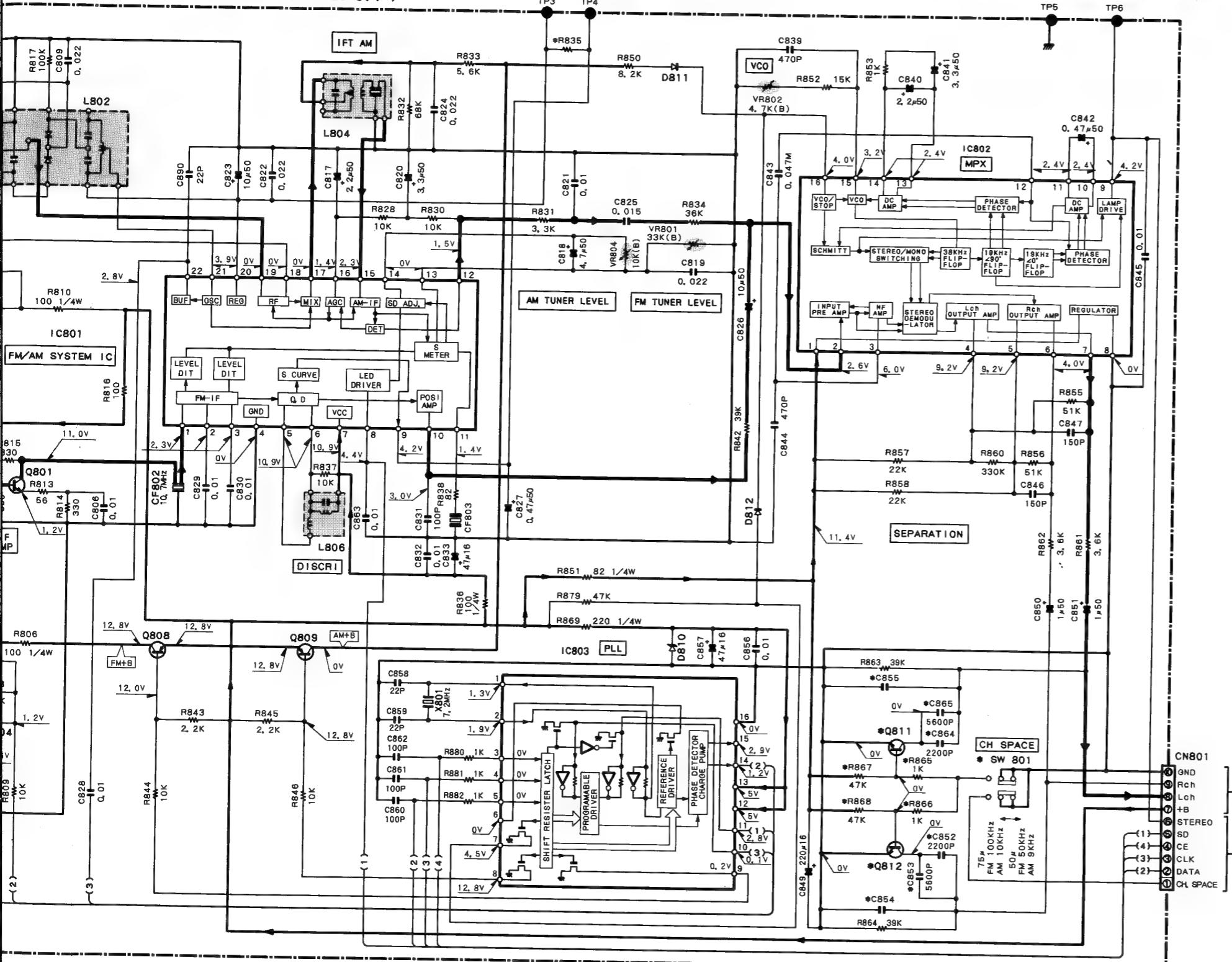
## IMPEDANCE SELECTOR

A or B :  
8Ω OR MORE → A or B : LESS THAN 8Ω  
A and B : 8Ω OR MORE





(WP4125K1)(K, P, R) (WP4125K2)(M) (WP4125K3)(X)

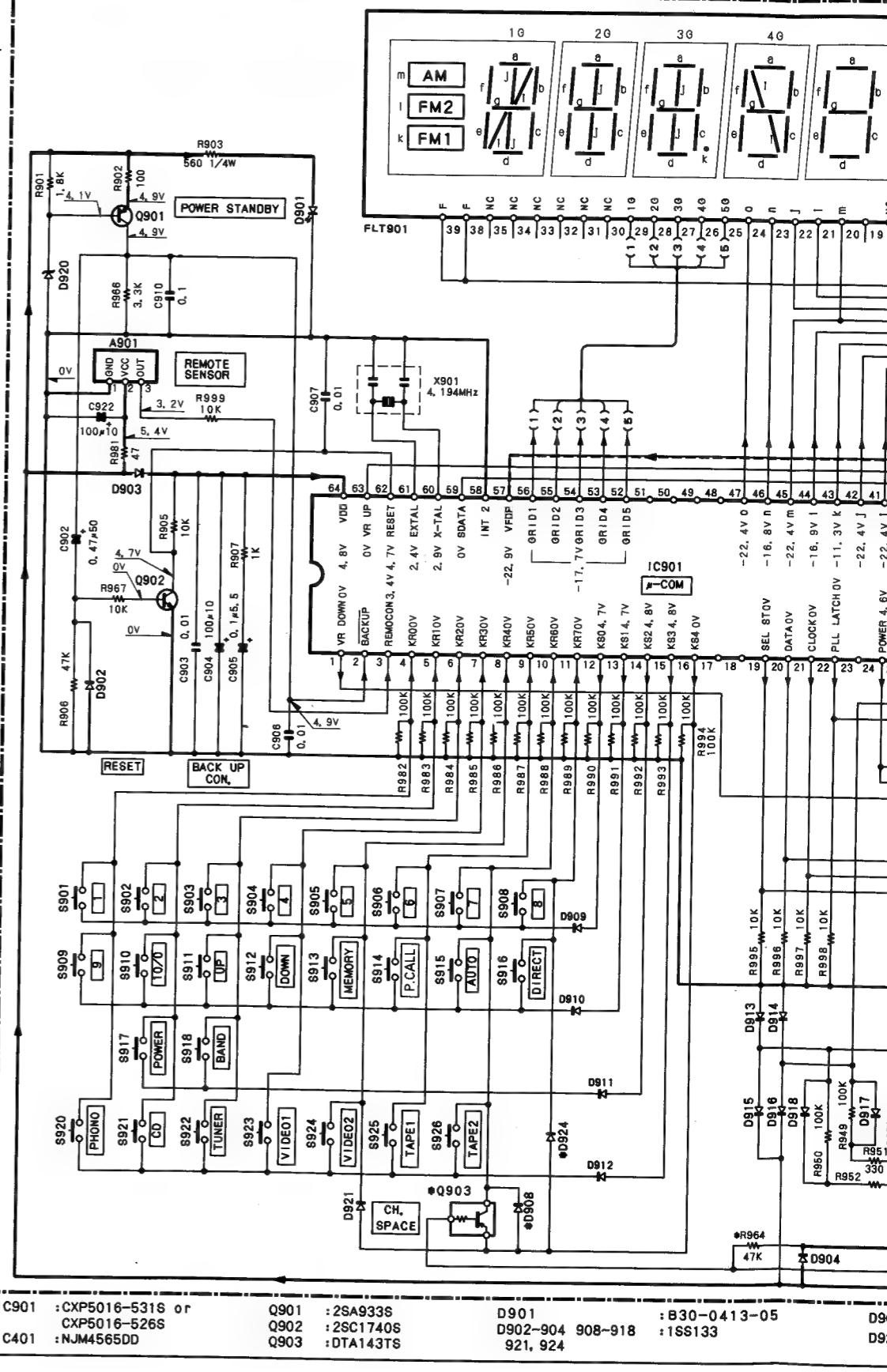


FRONT/TONE PCB ASS 'Y'

DESTINATION		Q903	D908	D924	R964	C908
COUNTRY	ABB.					
U. S. A.	K	NO	NO	YES	NO	YES
CANADA	P	NO	NO	YES	NO	YES
GENERAL MARKET	M	YES	NO	NO	YES	NO
AUSTRALIA	X	NO	YES	NO	NO	NO

Q812	R835	R865	R866	R867	R868	SW801	C852	C853	C864	C865	C854	C855
NO	15K	NO	NO	NO	NO	NO	NO	NO	NO	0.022μF	0.022μF	
YES	39K	YES	YES	YES	YES	YES	YES	YES	YES	0.015μF	0.015μF	
NO	39K	NO	NO	NO	NO	NO	NO	NO	NO	0.015μF	0.015μF	

FRONT/TONE PCB ASS 'Y' (WP4127K1)(K, P, R) (WP4127K2)(M) (WP4127K3)(X)

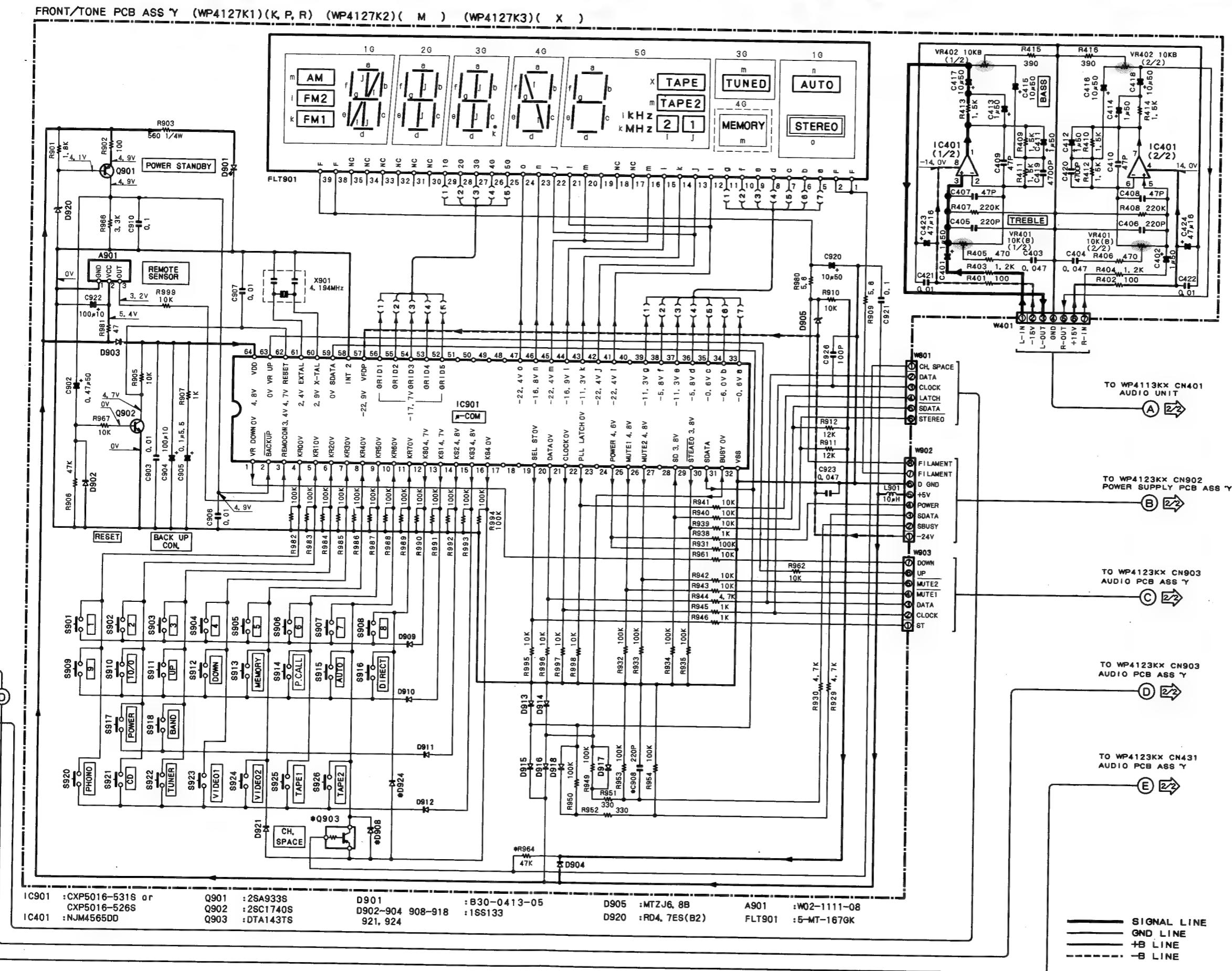


IC901 : CXP5016-531S or CXP5016-526S  
IC401 : NJM4565DD

Q901 : 2SA933S  
Q902 : 2SC1740S  
Q903 : DTA143TS

D901 : B30-0413-05  
D902-904 : 908-918  
921, 924 : 1SS133

D903 : 2SC1740S  
D904 : 2SA933S

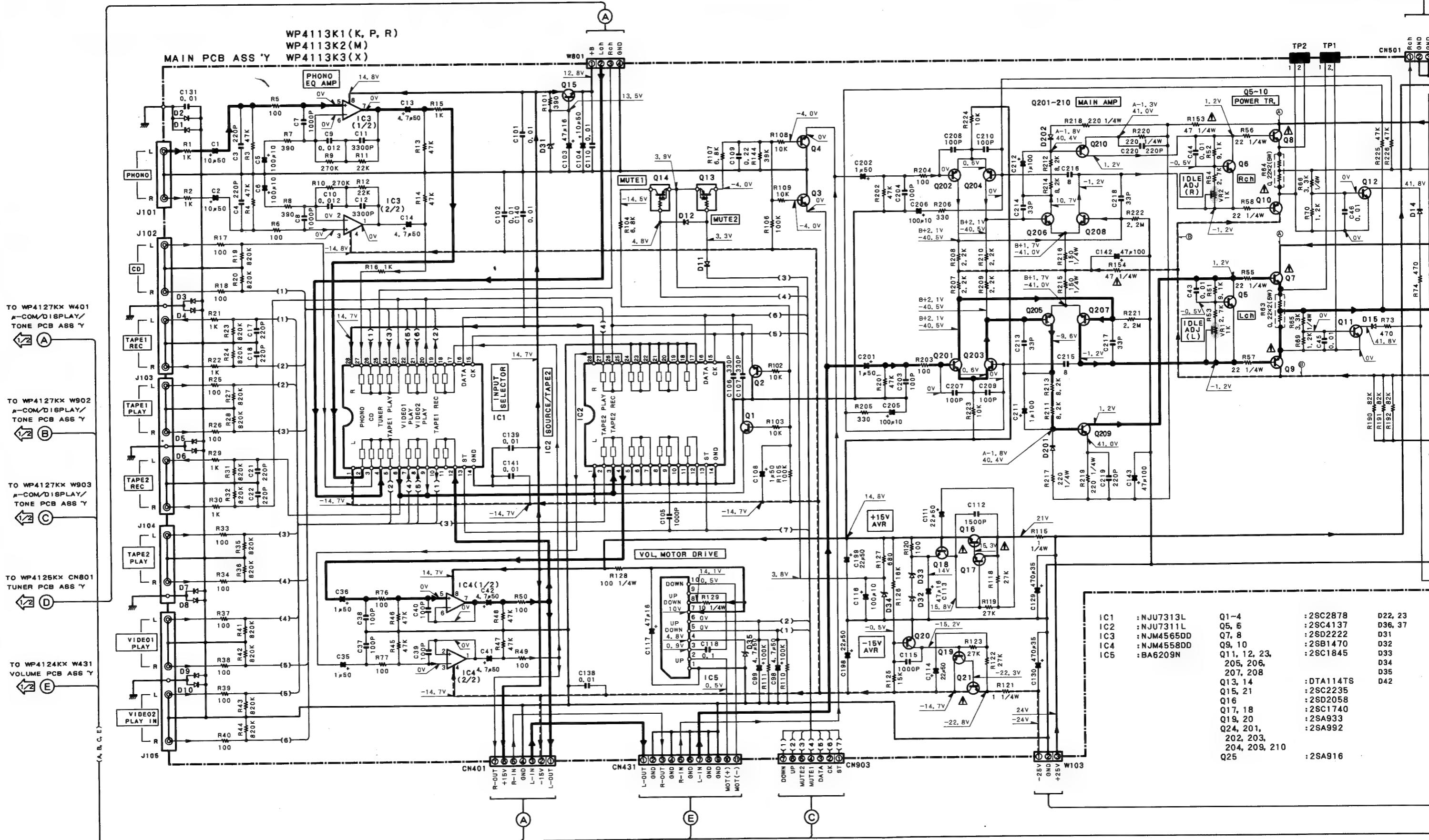


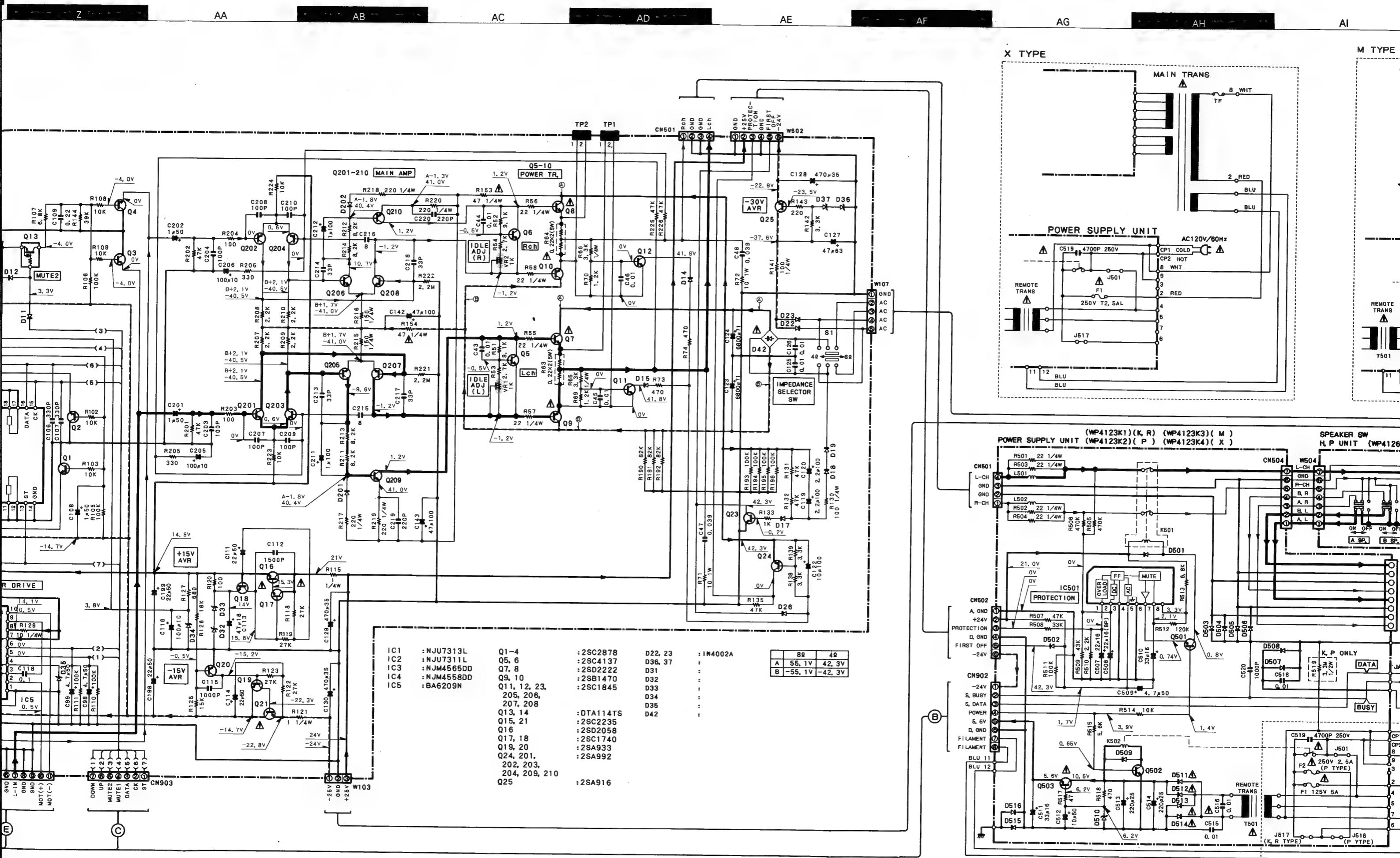
- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

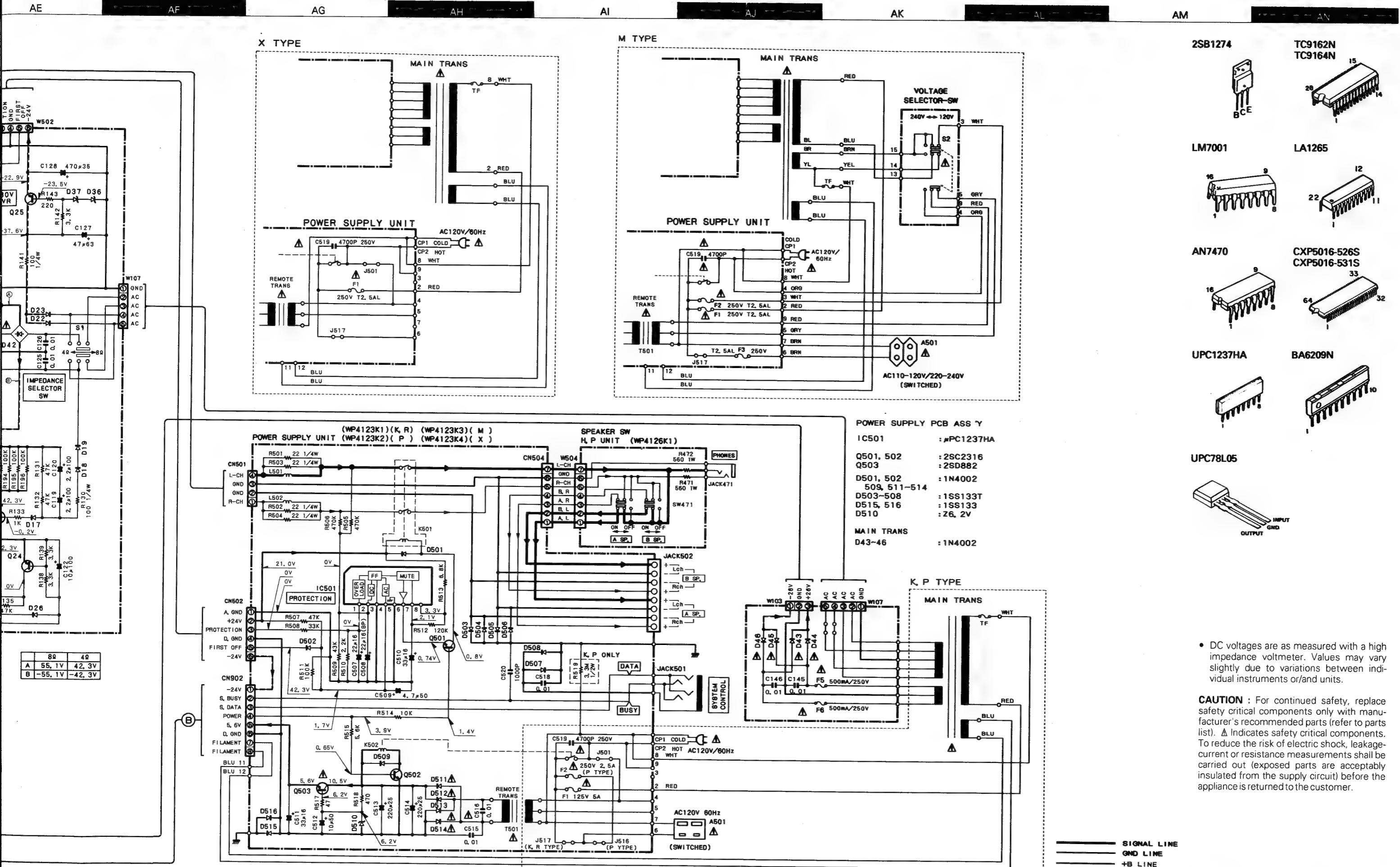
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to part list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage current or resistance measurements shall be carried out (exposed parts are acceptable insulated from the supply circuit) before the appliance is returned to the customer.

1/2 (Except E, T)  
Y05-2880-10

**KR-A5060**  
**KENWOOD**

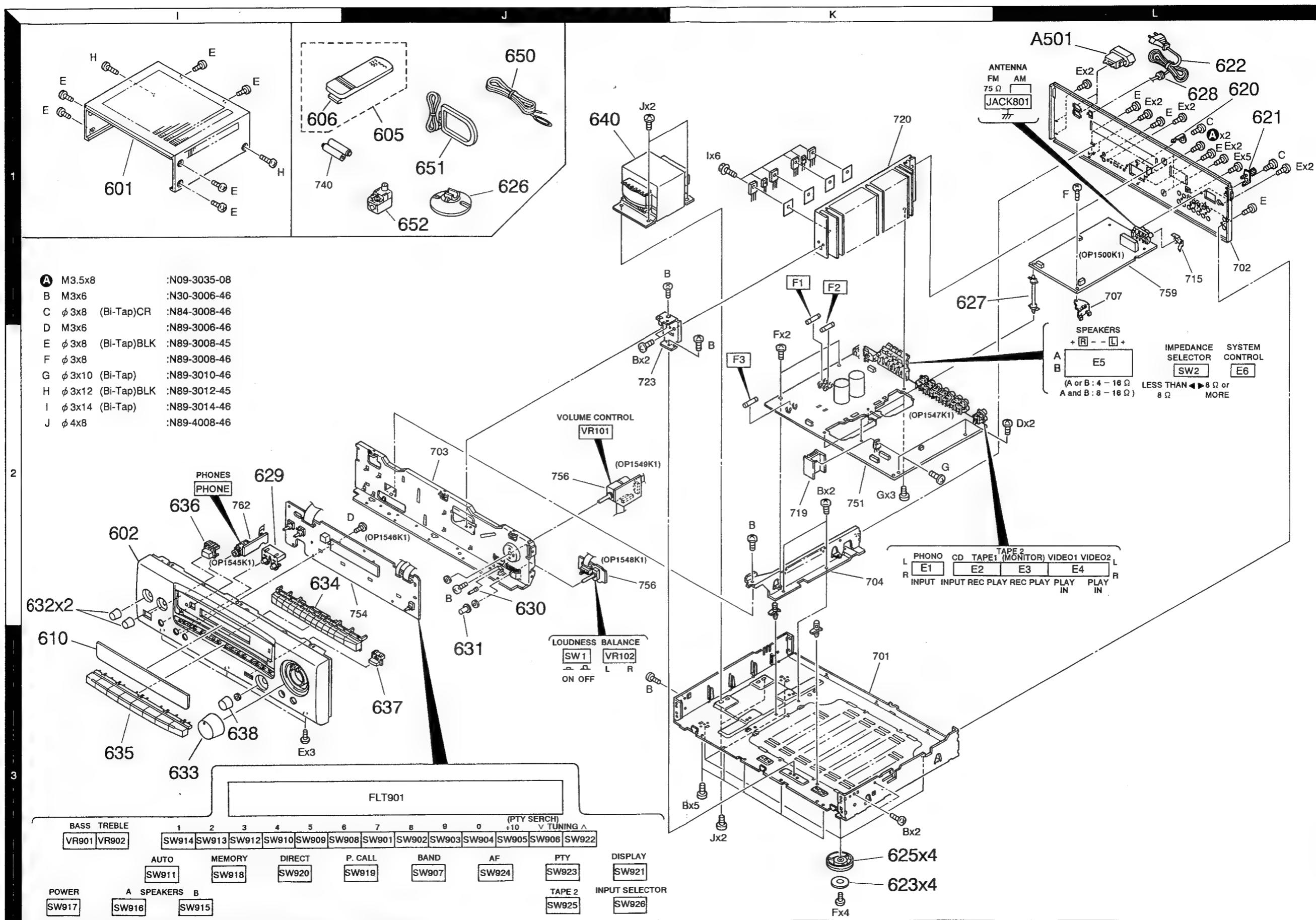






# KR-A4060/A5060      KR-A4060/A5060

## EXPLoded View (Unit)



**Parts with the exploded numbers larger than 700 are not supplied**



## **PARTS LIST**

6

Ref. No.	参照番号	Address New Parts	位 置	部 品 番 号	部 品 名 / 規 格	Des- ti- na- tion 地 点	Re- marks 備考
L803		L33-0381-08			SMALL FIXED INDUCTOR 1mH		
L804		L30-0904-08			IFT AM		
L805		L30-0905-08			IFT FM		
L806		L30-0906-08			IFT FM		
L807		L39-1323-08			COIL		
L808, 809		L35-0070-08			SMALL FIXED INDUCTOR 1uH		
L810		L40-1091-17			SMALL FIXED INDUCTOR 10uH		
L811, 812		L40-1001-17			SMALL FIXED INDUCTOR 100uH		
L901		L40-1001-17			SMALL FIXED INDUCTOR 100H		
L902, 903		L40-1091-17			SMALL FIXED INDUCTOR 10H		
L905-908		L40-1091-17			SMALL FIXED INDUCTOR 1uH		
T1		L07-0825-08			TRANSFORMER	T	
X801		L07-0826-08			TRANSFORMER	E	
X802		L78-0616-08			RESONATOR		
		L77-2126-08			CRYSTAL		
X803		L77-2127-08			CRYSTAL		
X804		L78-0647-08			RESONATOR		
X901		L78-0209-05			RESONATOR		
G	2K	N89-3010-46			BINDING HEAD TAPITTE SCREW		
CP1 , 2		R90-0187-05			MULTI-COMP	0.22X2	5W
R3		RD14GB2E101J			FL-P-PROOF	RD 100	J 1/4W
R31		RD14GB2E101J			FL-P-PROOF	RD 100	J 1/4W
R32		RS14DB3U122J			FL-P-PROOF	RS 1.2K	J 2W
R177		RD14GB2E100J			FL-P-PROOF	RD 10	J 1/4W
R217-222		RD14GB2E221J			FL-P-PROOF	RD 220	J 1/4W
R222		RD14GB2E221J			FL-P-PROOF	RD 220	J 1/4W
R245-248		RD14GB2E221J			FL-P-PROOF	RD 220	J 1/4W
R249		RD14GB2E101J			FL-P-PROOF	RD 100	J 1/4W
R250		RD14GB2E2470J			FL-P-PROOF	RD 47	J 1/4W
R253, 254		RS14DB3U100J			FL-P-PROOF	RS 10	J 1W
R255, 256		RS14DB3U561J			FL-P-PROOF	RS 560	J 1W
R824		RD14GB2E101J			FL-P-PROOF	RD 100	J 1/4W
R827		RD14GB2E101J			FL-P-PROOF	RD 100	J 1/4W
R840		RD14GB2E101J			FL-P-PROOF	RD 100	J 1/4W
R851		RD14GB2E221J			FL-P-PROOF	RD 47	J 1/4W
R865		RD14GB2E221J			FL-P-PROOF	RD 220	J 2W
VR01		R39-00001-08			POTENTIOMETER	100KBY2	VOLUME
VR102		R10-5071-08			POTENTIOMETER	BALANCE	
VR201 , 202		R12-1066-05			TRIM POT.	1KB	IDLE ADJ
VR801		R12-1053-05			TRIM POT.	4.7KB	AM TUNE LEVEL
VR802		R32-0012-08			TRIM POT.	100KB	FM TUNE LEVEL
VR803		R32-0012-08			TRIM POT.	100KB	SEPARATION
VR901, 902		R39-0002-08			POTENTIOMETER	BASS TREBLE	
K1	, 3	S76-0034-08			MAGNETIC RELAY		
SW1		S76-0035-08			PUSH SWITCH	LOUDNESS	
SW2		S68-0040-08			SLIDE SWITCH	IMPEDANCE SELECT	
SW801-925		S62-0032-08			TACT SWITCH	KEY BOARD	
SW926		S60-0030-08			ROTARY SWITCH	INPUT SELECTOR	
D1		ISS133					DIODE
D2	-5	1NA002A					DIODE
D4	, 15	1NA002A					DIODE

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5 : KR-A5060

 indicates safety critical components.

Y : AAFES (Europe) X : Australia M : Other Areas

 indicates safety critical components.

X : Australia

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Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

✖ New Parts  
Parts without **Parts No.** are not supplied.  
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.  
Teile ohne **Parts No.** werden nicht beliefert.

5

## PARTS LIST

8

\* New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	Parts No.	Description	Parts No.	Description	Desti- nation 付	Re- marks 備考
部品番号	位番	部品番号	部品名／規格	部品番号	部品名／規格	部品番号	部品名／規格
D16 .17		1SS133	DIODE	Q213,214	*	2SC2316	TRANSISTOR
D25 .26		1SS133	DIODE	Q215,216	*	2SA16	TRANSISTOR
▲ D30		DBF40C	DIODE	Q217,218	*	2SC4467	TRANSISTOR
▲ D31	-36	DBF60C	DIODE	Q217,218	*	2SC4468	TRANSISTOR
▲ D6-9,10		1SS133	DIODE	▲ Q219,220	*	2SA1694	TRANSISTOR
D10-11,10		1SS133	DIODE	Q221,222	*	2SA1695	TRANSISTOR
D12,13		1SS133	DIODE	Q223,224	*	2SC1740S	TRANSISTOR
D20,21,202		1SS133	DIODE	Q801		2SC1740S	TRANSISTOR
D203,204		1N4002A	DIODE	Q802		2SA1935	TRANSISTOR
D205,206		1SS133	DIODE	Q803		2SC1740S	TRANSISTOR
D80-809		1SS133	DIODE	Q804		2SC31940	TRANSISTOR
D81,10		RD1.1ES(B2)	ZENER DIODE	Q805		2SC1740S	TRANSISTOR
D811		1SS133	DIODE	Q806-808		2SC1740S	TRANSISTOR
D812		RD1.3ES(B2)	ZENER DIODE	Q809,810		2SA1935	TRANSISTOR
D901-920		1SS133	DIODE	Q811		2SD2061E	TRANSISTOR
D922		M1ZJ6.2B	ZENER DIODE	Q901,902		2SC1740S	TRANSISTOR
D98,99		M1ZJ2.7B	ZENER DIODE	2D1		MT243.9B	ZENER DIODE
		1SS133	DIODE	2D2	,3	MT255.1B	ZENER DIODE
EL7901		10-MT-56GK				RD6.2ES(B2)	ELECTRIC CIRCUIT MODULE
IC1		HC1815C	FLUORESCENT INDICATOR TUBE			MT2J16A	FM FRONT END
IC101		NM4556DD	IC(VOLTAGE REGULATOR/+15)			MT255.1B	
IC102		* NJU7313L	IC(OP AMP X2)			RD6.8ES(B2)	
IC102		TC9164N	IC(ANALOG SWITCH) SELECTOR SW			MT243.9B	
		1SS133	IC(16CH BILATERAL SELECTOR SW)			MT255.1B	
IC104		* NJU7311L	IC(ANALOG SWITCH) ARRAY			RD6.1111-08	
IC104		TC9162N	IC(ANALOG SWITCH ARRAY)			RD2-1041-15	
IC105		* NJU7312AL	IC(BILATERAL SWITCH X16)				
IC105		TC9163N	IC(BILATERAL SWITCH X16)				
IC106		BA6209N	IC(MOTOR DRIVER)				
IC201		LA1266	IC(AM/FM IF)				
IC202		LA3401	IC(FM MPX)				
IC203		LC7218	IC(PLL SYNTHESIZER)				
IC204		LM258N	IC(RDS DEMODULATOR)				
IC205		TDA7330A					
IC206		LC654.3H-4600	IC(MICROPROCESSOR)				
IC207		NM78105A	IC(VOLTAGE REGULATOR/+5V)				
IC208		UPC78105	IC(VOLTAGE REGULATOR/+5V)				
IC209		UPD780.4GF-021	IC(8BIT MICROPROCESSOR)				
IC209		PT529C	IC(SYSTEM RESET)				
IC209		NJM4556DD	IC(OP AMP X2)				
Q1		2SD862	TRANSISTOR				
Q2	-5	DTC1.1ES	DIGITAL TRANSISTOR				
▲ Q6		2SA916	TRANSISTOR				
Q8		2SA933S	TRANSISTOR				
Q10		2SA933S	TRANSISTOR				
Q101-104		2SC2818	DIGITAL TRANSISTOR				
Q105,106		DTC1.1ES	DIGITAL TRANSISTOR				
Q107-109		DTC1.14ES	TRANSISTOR				
Q201-204		2SA992	TRANSISTOR				
Q205,206		2SC1845	TRANSISTOR				
Q207,208		2SA992	TRANSISTOR				
Q229,230		2SC1845	TRANSISTOR				
Q211,212		2SC413(V)	TRANSISTOR				

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▲ indicates safety critical components.

L : Scandinavia K : USA P : Canada R : Mexico  
Y : PX (Far East, Hawaii) T : England E : Europe M : Other Areas  
V : AAFES (Europe) X : Australia N : Other Areas

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I : USA K : USA P : Canada R : Mexico  
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# KR-A4060/A5060

## SPECIFICATIONS

### KR-A4060

#### *Audio section*

##### Rated power output

(IEC/NF) from 63Hz~12,500Hz	
0.7% T.H.D. at 8Ω	60W + 60W
(DIN) 1,000Hz at 8Ω	60W + 60W
1,000Hz at 4Ω	55W + 55W

Total harmonic distortion (1kHz, 8Ω) 0.01% at 40W

##### Signal to noise ratio

Phono (MM)	56dB (DIN, 50mW output)
CD, TAPE, VIDEO	57dB (DIN, 50mW output)

##### Input sensitivity/impedance

Phono (MM)	2.5mV/47kΩ
CD, TAPE, VIDEO	200mV/47kΩ

##### Tone controls

BASS	±10dB (at 100Hz)
TREBLE	±10dB (at 10kHz)

##### Loudness control at 30dB

Volume level	+9dB (at 100Hz)
--------------	-----------------

### *FM tuner section*

Tuning frequency range ..... 87.5MHz~108MHz

##### Usable sensitivity (DIN at 75Ω)

MONO	1.1μV
STEREO	4.5μV

##### Total harmonic distortion at 1kHz (DIN)

MONO	0.15%
STEREO	0.5%

##### Signal to noise ratio (DIN weighted at 1kHz)

MONO	68dB (65.2dBf input)
STEREO	61dB (65.2dBf input)

Selectivity (DIN ±300kHz) ..... 53dB

Stereo separation (DIN) at 1kHz ..... 40dB

Frequency response ..... 30Hz~15kHz, +0.5dB, -2.0dB

### *AM tuner section*

Tuning frequency range ..... 531kHz~1,602kHz

Usable sensitivity ..... 12μV (400μV/m)

Total harmonic distortion ..... 0.3%

Signal to noise ratio (at 30% mod. 1mV input) ..... 50dB

Selectivity ..... 30dB

### *General*

Power consumption ..... 120W

AC outlet (Switched) ..... 2 : (total 200W max.)

Dimensions ..... W : 440mm x H : 133mm X D : 350mm

Weight (net) ..... 6.8kg

### KR-A5060

#### *Audio section*

##### Rated power output

(IEC/NF) from 63Hz~12,500Hz	
0.7% T.H.D. at 8Ω	100W + 100W
(DIN) 1,000Hz at 8Ω	100W + 100W
1,000Hz at 4Ω	90W + 90W

Total harmonic distortion (1kHz, 8Ω) 0.01% at 50W

##### Signal to noise ratio

Phono (MM)	56dB (DIN, 50mW output)
CD, TAPE, VIDEO	57dB (DIN, 50mW output)

##### Input sensitivity/impedance

Phono (MM)	2.5mV/47kΩ
CD, TAPE, VIDEO	200mV/47kΩ

##### Tone controls

BASS	±10dB (at 100Hz)
TREBLE	±10dB (at 10kHz)

##### Loudness control at 30dB

Volume level	+9dB (at 100Hz)
--------------	-----------------

### *FM tuner section*

Tuning frequency range ..... 87.5MHz~108MHz

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MONO	1.1μV
STEREO	4.5μV

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### *AM tuner section*

Tuning frequency range ..... 531kHz~1,602kHz

Usable sensitivity ..... 12μV (400μV/m)

Total harmonic distortion ..... 0.3%

Signal to noise ratio (at 30% mod. 1mV input) ..... 50dB

Selectivity ..... 30dB

### *General*

Power consumption ..... 180W

AC outlet (Switched) ..... 2 : (total 200W max.)

Dimensions ..... W : 440mm x H : 133mm X D : 350mm

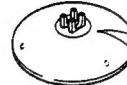
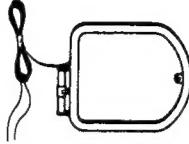
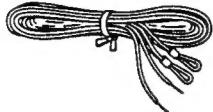
Weight (net) ..... 8.2kg

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

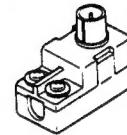
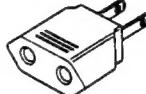
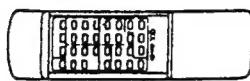
# KR-A4060/A5060

## ACCESSORIES

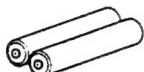
- FM indoor antenna ..... 1  
(T90-0182-05 : **Except E, T type**)  
(T90-0176-05 : **E, T type**)
- AM loop antenna ..... 1  
(T90-0184-08)
- Loop antenna holder ..... 1  
(J19-2815-04)



- Remote control ass'y (RC-R5030) .. 1  
(A70-0985-08)
- AC plug adaptor ..... 1  
(E03-0115-05 : **Except E, T type only**)
- Antenna adaptor (75Ω/300Ω) ..... 1  
(T90-0185-05 : **E, T type only**)



- Battery cover (A09-0170-08)
- Batteries (R6/AA) ..... 2



*Except for U.K., Europe and Australia.  
For the unit with a European AC plug in areas other than Europe.*

*For U.K. and Europe.*

### Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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